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## ***Economics and Theoretical Physics***

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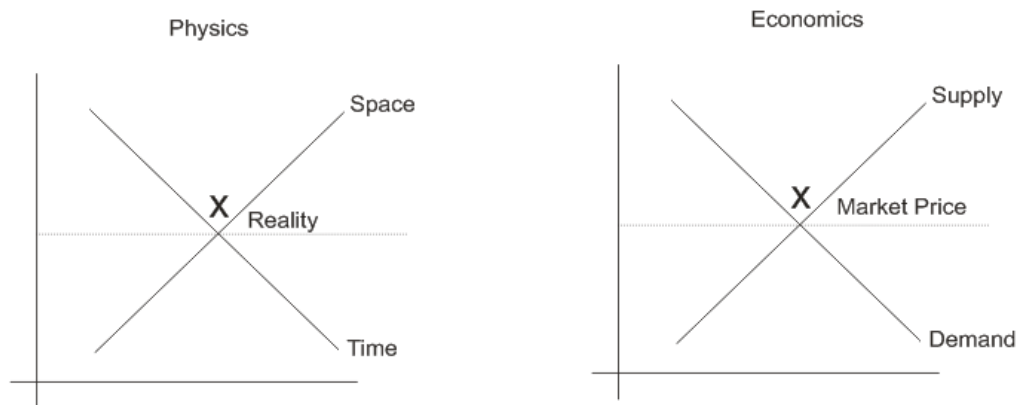
**Key Words:** Scarcity; money; money supply; energy; zero cost energy; open market operations; resource creation; economic thought; poverty; wealth; cost; market efficiency; supply; demand; money; price; time; space; matter; mark-up; cost plus pricing; rationality; operating level economics; economic growth; paradox.

### **Abstract**

The recent earthquake in Japan and its impact on the Fukushima nuclear power plant is a tragic reminder of humanity's ever growing dependence on energy for its socioeconomic development. Energy plays a central role in determining the effectiveness of economics. However, are the fundamental difficulties associated with understanding the true nature of energy impeding development? This paper is a reflection on theoretical physics from an economic vantage point. As difficult as it may seem to band them together as this article will attempt to do, physics and economics are conjoined. Space, Time , Matter and Energy all play a significant role in the capacity of economics to better provide for humanity. For example, energy; its, provision, evolution and consumption play a significant role in the capacity of economics to develop strategies with which to satisfactorily manage human development. The impact the price of oil has on the global economy is testimony to the impact the cost of energy has on economies and governments in general. If global incomes could rise or the cost of energy could fall this could significantly increase its affordability. Therefore, advances in physics and the natural sciences in general can have a positive impact on economics.

## Economics and the Natural Sciences

There are parallels between economics and the natural sciences. The law of conservation of energy and the law of conservation of financial resources appear evident in how market forces behave. Market forces represent a closed system in which growth does not take place without being cancelled out by the equal and opposite interaction of demand and supply. This cancelling out inhibits growth and gives rise to either inflation or deflation. This paper will analyze some of the parallels between contemporary economics and observe how similar ideas concerning reality and the foundation of the natural sciences share substantive logical impasses with contemporary economics that may hinder the capacity of human beings to fully understand the nature of reality and how this influences the evolution of the natural sciences. Using a purely theoretical approach this paper will attempt to draw inferences backed by a teleological flow of logic the reality of which are open to debate. Consequently there is no better place to begin than with demand and supply. Amongst the most renowned scientists in the field of physics is Albert Einstein. In the same way contemporary economics uses Supply and Demand, Einstein's theory of reality or Relativity Theory uses two basic structures to build an understanding of the Universe, these are, Space and Time. The known Universe can be described as being governed by Space-Time, it is therefore a Space-Time Universe. This concept forms the basic building blocks of Einstein's model of the Universe and how it works or functions.



What the diagram demonstrates is that the entire technical structure of conventional physics depends on the interaction of Space and Time without which it appears no logical inferences can be made and upon which nearly all calculations depend to arrive at mathematically accurate descriptions or predictions concerning the nature of the Universe. However, as it is with the expenditure fallacy in contemporary economics that hinders the ability to end poverty there may be fundamental fallacies in this model of the Universe that hinders progress in physics. It is possible at this stage to identify

fundamental inaccuracies in the Einstein-ian view or explanation concerning the nature of the Universe. The first critical inaccuracy in this model may stem from how it identifies and describes Space. Einstein may make two fundamental mistakes in the model he uses for his basic understanding of the Universe. Firstly, he assumes that distance and Space are one and the same. For example the measurable distance between a proton and an electron at the quantum level entails that there is “Space” between them. This assumption may be logically inaccurate. “The Space-Time Universe proposed by Einstein could be flawed for ....[the] reason; in his analysis Einstein may not clearly differentiate between “distance” and “Space”. This can lead to a number of inaccurate descriptions about the nature of Space and Time. The concept of distance belongs to a..construct in which ‘Space’ being a vacuum is accommodated or accepted to validate distance or separation between objects [or matter]. However, Space... [may] not be the same as distance... In other words one may talk about the distance between the earth and the moon, however, it would then be incorrect using the same principle to theorise that there is any Space between the earth and the moon..If someone were to say to you, ‘*Look I need some Space.*’ Technically, it would be completely different from saying, ‘*Look, I need some distance.*’ To give you distance they could simply move further away from you, to give you Space they could remain right next to you and hand you Space.... Einstein might point at the Sun theorising on how the [Space-Time] continuum functions and say it is in Space, when in fact it is not in Space since this conclusion could not have been made without factoring in distance.”<sup>1</sup> This flaw in Einstein’s model is made glaringly obvious by two facts of his analysis, firstly Einstein groups together Space and Time, Time in his analysis is inseparable from distance; in other words by incorporating Time in his interpretation of Space Einstein automatically computes distance in the workings of his theories, which, as we shall go on to discern, may be a fundamentally flawed method. Secondly, it becomes clear Einstein is aware of these weaknesses in his own model as he ascribes its flaws or what it fails to explain to the existence of the Ether. Einstein seems compelled to accept the existence of an Ether, “Newtonian action at a distance is only apparently immediate action at a distance, but in truth is conveyed by a medium permeating space, whether by movements or by elastic deformation of this medium. Thus the endeavour toward a unified view of the nature of forces leads to the hypothesis of an ether. This hypothesis, to be sure, did not at first bring with it any advance in the theory of gravitation or in physics generally, so that it became customary to treat Newton's law of force as an axiom not further reducible.”<sup>2</sup> Einstein further notes the characteristics of the Ether “Within matter it takes part in the motion of matter and in empty space it has everywhere a velocity; so that the ether has a definitely assigned velocity throughout the whole of space.”<sup>3</sup> However he further states that, “More careful reflection teaches us, however, that the special theory of relativity does not compel us to deny the Ether. We may assume the existence of an Ether; only we must give up ascribing a definite state of motion to it, i.e. we must by abstraction take from it the last mechanical characteristic which Lorentz had still left it. We shall see later that this point of view,

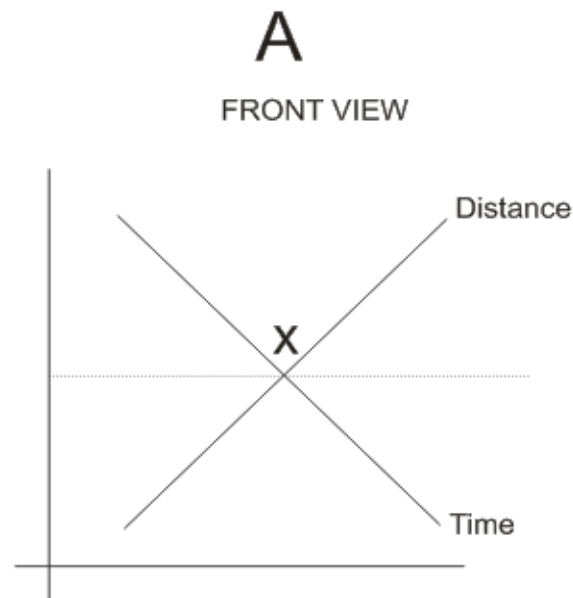
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<sup>1</sup> Punabantu Siize (2004) “Time”, Revision of Punabantu S (Nov 2003) “African Time”, Post Newspaper

<sup>2</sup> Einstein Albert (5<sup>th</sup> May 1920) “Ether and the Theory of Relativity” (an address delivered on May 5th, 1920, in the University of Leyden)

<sup>3</sup> Ibid.

the conceivability of which shall at once endeavour to make more intelligible by a somewhat halting comparison, is justified by the results of the general theory of relativity.”<sup>4</sup> The fact that Einstein gives up ascribing a state of motion to the Ether allows us to conclude that this may entail it has no definitive motion since it does not have distance and consequently is devoid of time and vice versa; despite this the fact that he still goes on to explain the Theory of Relativity and Special Theory using absolute motion demonstrates that it is a top view theory and therefore though its inferences may be accurate, they will be accurate only to the top view model. It may therefore be concluded that Einstein’s model is in fact inaccurately theorised on Space and on a presumption based on distance. Let us examine this argument diagrammatically.

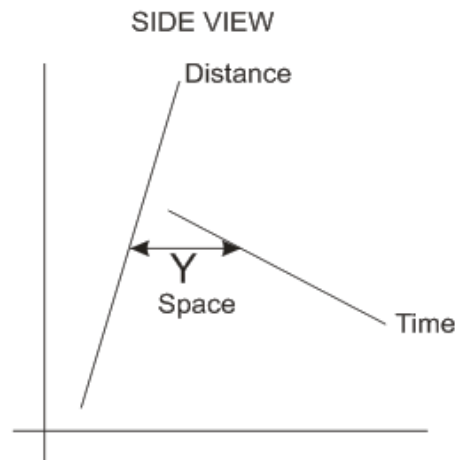


If we can for now, to catch the teleological flow of this logic accept that Space and distance are not the same this enables us to correct Einstein’s model by replacing Space with distance in the diagram. If distance and Space are not the same then where are Space and the Ether? Turning diagram A on its side reveals that the intersection X of distance and Time may in fact still be inaccurate since distance and Time only appear to intersect when viewed from the vantage point of the model upon which Einstein bases the logic used to describe how the Universe functions which can be described as the front or top view. To the contrary when viewed from the side it is found that Einstein’s fundamental model for “Space and Time” are incomplete in that the two may not in reality intersect, they only appear to do so from the top view.

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<sup>4</sup> Op. cit.

## B

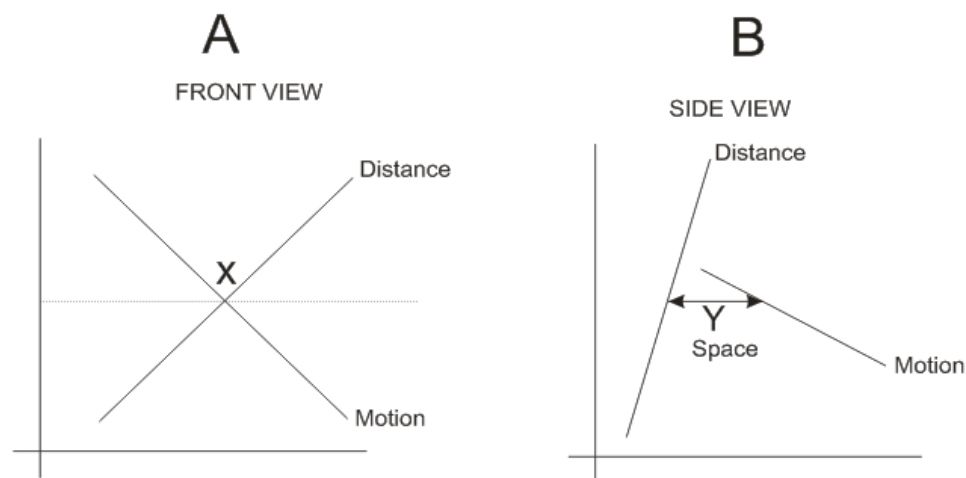


The fundamental model on which modern physics is built depends on the intersection at X in diagram A. For example, in trying to determine how long it would take to travel to the moon one might use distance and durational time (X). Chapman (2010) explains that *“Every particle or object in the Universe is described by a "world line" that describes its position in time and space. If two or more world lines intersect, an event or occurrence takes place. The "distance" or "interval" between any two events can be accurately described by means of a combination of space and time, but not by either of these separately. The space-time of four dimensions (three for space and one for time) in which all events in the Universe occur is called the space-time continuum.”*<sup>5</sup> This represents, as we saw earlier in the first diagram, Einstein’s model uses distance for Space. Einstein’s view that Space and Time, like demand and supply in Economics, must intersect is a perception based problem as this theory is found to be untrue when observed from the side view where Time and Space (distance being Space in his model) do not in fact intersect. The world line if improperly applied can be a fundamental misinterpretation based on perception of how laws in physics function; what is observed is not always what occurs. The workings of Einstein’s space-time continuum and some of the inferences made based on it may be no more than a mirage when observed outside the top view. As we have shown there may be no actual or fixed intersection between distance and time. The potential inexistence of this connection is capable of reducing the value of distance to 0 or make it a non-existent aspect of the continuum. Space separates, calibrates and predetermines Einstein’s notion of Space (distance) and Time. This can entail for instance that there is in fact no distance between the moon and the earth. If there is no distance as a result of the earth and the moon occupying the same Space then it can be concluded that Einstein’s model also incorrectly labels Time. There is no “durational time” required to cover the distance, since in actuality

<sup>5</sup> Jeremy Chapman (2010) *“Relativity and Black Holes : The Beginning Becomes the End Becomes the Beginning : A study of cosmological birth and death”*

the distance is 0 (earth and moon occupy the same Space), therefore Time is 0, making the progression of Time in the “Space-Time” continuum inaccurate or simply an illusion created by the model’s top view interpretation of the Universe observed in diagram A. The concept that time does not exist is one that will take a while for the scientific establishment to digest, however, there are ever increasing signs this property may eventually be understood. Folger (2007) reveals, “Efforts to understand time below the Planck scale have led to an exceedingly strange juncture in physics. The problem, in brief, is that time may not exist at the most fundamental level of physical reality. If so, then what is time? And why is it so obviously and tyrannically omnipresent in our own experience? “The meaning of time has become terribly problematic in contemporary physics,” says Simon Saunders, a philosopher of physics at the University of Oxford.”<sup>6</sup>

What is labeled as “Time” in Einstein’s model is in fact a form of chronological decay or motion observed in matter taking place in the *absence* of Time validated by the fact that in reality the intersection X is governed by the separation Y. Economists may make this same fundamental mistake when they presume the intersection of demand and supply creates an equilibrium that generates economic growth, like Einstein’s model they mistakenly attribute economic growth (distance) to stability in the intersection X when in fact stability and economic growth are not the same, as distance and Space are technically not one and the same.



### **The Mystery of Growth in Economics and Origin of Gravity in Physics**

The same way physics tends to have difficulty pinning down the source or origin of gravity economics has difficulty identifying and understanding the origin of wealth and economic growth. If the answer to these problems were comprehensively known and understood; poverty would not exist and the ability to control and manipulate gravity would be a common aspect of human technological civilization. Both

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<sup>6</sup> Tim Folger (2007) “Newsflash: Time May Not Exist”

these problems may be perception related. The logical deduction that Time=0 does not confound mathematical models in physics, what it implies is that a calculation where 10 seconds elapses will mean that motion took place while time stood still, for example, a speed of 100 meters per second entails that the same calculations for “time” is used in the equation, however, analytically time itself should not be considered to have elapsed, 10 seconds for instance becomes 10 cycles or motions; it is a conversion of the idea not a loss of the idea itself. Similarly, the object travelled 100 meters, however, since in Einstein’s corrected model there is no distance covered (distance =0) something is covered, but analytically *it is not distance*. The conversion of this idea entails it changes from 100 meters to 100 motions. 100 meters per second changes from a spatial concept to 100 motions per cycle (100 motions being equal to 1 cycle) which is a frequency based on the relativity of the movement of objects in relation to one another in the absence of Time and distance; this entails clocks technically measure the absence not the progression of time, however, even this is suspect since from the side view the progression of Time would be considered a primitive human concept, the absence of time being a cornerstone of how the Universe functions. The measurements in physics remain the same but the fundamental properties with which they are associated change, creating a conceptual paradigm shift in how this phenomena is understood; instead of seeing a limb as an independent force or object we instead attempt to see how the limb is structured and what it consists of and what it is attached to. What we have just analysed is that what is experienced at the intersection X in economics or physics is relative. The distance between the earth and the moon, for example, is governed by laws of physics which in turn are rendered predictable by the properties created by the intersection X; however, the intersection at X is governed by properties of Y. This new model devoid of durational time and distance is more practical since it presumes to use much less energy and resources to create the experiential or top view Universe. Think of it this way, we do not need to expand the size of a laptop’s screen to the extent of the heavens to study the stars, it is impractical to do this as it would use up vast resources, instead we compress the image to fit a 15 inch screen; the Universe may use the same approach. By the earth and the moon occupying the same space and using other properties to define the “distance” between objects the Universe uses less “energy” or effort and operates more efficiently; distance can be maximized without sacrificing “space”. Time is discarded (remains zero or unchanging) to create a continuum allowing motion in matter (which is confused for durational time ) to be extrapolated over it. The chronological progression of time as human beings understand it even in its scientific context is no different from markers covered over distance travelled; both this kind of time and distance travelled are a wave form, that is, an illusion or a form paramnesia required for the human mind to process its own reality. Since there is no distance between objects the idea that gravity, weight or mass is created by action at a distance without a medium and created by acceleration proposed by the genius, Isaac Newton, may also be inaccurate. The apple striking Newton can in fact be interpreted as a front view description of the event that is said to have directed Newton to arrive at a deduction based on a perception formed on a premise induced by the effect of the falling apple. In the same way there is no distance between the earth and the moon, there was no distance between the apple and Newton’s forehead, objects have no actual or substantive volume or mass and therefore no *genuine* weight. Mass



and time are useful for the experiential Universe, but are not practical or efficient to the mechanics of how the Universe is created (that is, the operational Universe) it is not scientifically practical for matter or objects to be of excessive volume or weight and of Space itself to be of great “distance” or of time to be of a burdensome duration; these are all primitive ways of understanding the Universe and the physics that applies to it. Of course, this same property will apply to gravity. Later in this paper an attempt will be made to explain why there may be a scientific basis for this in theoretical physics. In this regard the “increase” in weight or g-force such as that observed when an object is accelerated may in fact not be created by velocity since distance=0 and consequently velocity remains zero; this idea of g-forces would only be a top level “illusion”. Economics is gripped by a similar illusion. It believes fundamentally in scarcity and the finiteness of economic resources, when in fact the volume of economic resources is not determined by what is observed or what appears available, but by the underlying operating system by which those resources are made available.

### **A Refresh Rate for Matter & Analytics in Economics**

Economics faces the same human constraints in logic that are found in physics in that what is observed and interpreted analytically may not be what occurs. For instance it is possible to theorize a scientific basis for the inexistence of time and here an attempt shall be made to explain this view. To make the explanation simpler or clearer let us begin with a very simple approach such as this; a cartoonist or animator drawing a car can flip pages with drawings to show a car travelling at 100km/h, however, in reality the image on each page is standing still and *has no velocity*; consequently, similarly to begin to understand forces like gravity scientists may have to learn to accept the non-existence of durational time and rationalize this in physics. The image on each page standing still entails it has no velocity and yet the object when observed on refreshed pages appears to move. This condition creates what scientists call the “measurement problem”. When frames used to animate an object are examined more closely it will inevitably be found that the object on each frame is standing still yet when the *flipped* pages are observed less closely or at a distance the object is animated. This phenomenon also represents the problem experienced in quantum physics where matter appears to be able to exist as a particle or a wave. Since we know that fundamentally the image on each page or frame is standing still we are able to infer the movement we observe in science as a “wave form”, velocity or on the screen as motion or movement is in fact an illusion, a form of paramnesia or a kind of “trick” of nature, it is a scientific phenomenon which creates empirically verified wave properties, yet without this “illusion” matter as human beings understand it and reality as they experience it would not exist. When the “pages are being flipped” and motion appears to take place through an animated object, matter seems to behave as a wave, however, when “moving” matter is examined more closely; on each page it has no velocity, is in fact standing still and therefore appears a particle, creating the inevitable dilemma of how an object can be moving and standing still at the same time. Wave particle duality in physics may in fact be a flawed concept, since waves *as they are conventionally understood* do not exist, but are more likely a top view illusion earlier described as a kind of paramnesia attributed to observation at the top level induced by motion facilitated by the refresh rate of matter; this illusion is what is referred to as the

experiential Universe or that aspect of the Universe people inhabit on a daily basis. The experiential Universe is not an illusion per say, it is a real, flesh and blood world or existence since it has origins in a particle form, however, the fundamental properties upon which it is created rely on the wave form of matter which is technically produced by ephemeral or impermanent processes. In other words even though reality is rooted in the particle form of matter, a particle itself is impermanent. This impermanence can be better understood by appreciating that matter refreshes, constantly; in other words particles must persistently appear and disappear in order to exist for matter to *appear* to be capable of animation or motion. Consequently, it can be deduced that to have the ability to move matter or a particle from which matter is constructed must have a third property that is currently unaccounted for in modern physics and this is the ability to “refresh”. To “refresh” refers to the ability to disappear and reappear; a property of matter currently unaccounted for in modern science, but that inferences show may occur.

The refresh rate of matter entails that matter exists and ceases to exist so rapidly it is difficult to say which state it occupies leading to a paradox, such as that observed in the Schrödinger’s Cat Experiment; it is dead and alive, standing still and moving, existing and ceasing to exist all of which appear to defy conventional thinking in physics. However, using the flow of logic thus far we can dismiss the top view concept that a particle is a wave since we know distance is a construction designed specifically for perception or put simply, it is experiential and conclude that matter *always is* and fundamentally remains a particle which is why when observed more directly and scrutinized closely matter will tend to appear as a particle, while its wave properties are induced by the process of refreshing these static particles or “stills”. Wiki (2010) explains that “Wave–particle duality postulates that all matter exhibits both wave and particle properties. A central concept of quantum mechanics, this duality addresses the inability of classical concepts like “particle” and “wave” to fully describe the behavior of quantum-scale objects. Standard interpretations of quantum mechanics explain this ostensible paradox as a fundamental property of the Universe, while alternative interpretations explain the duality as an emergent, second-order consequence of various limitations of the observer. This treatment focuses on explaining the behavior from the perspective of the widely used Copenhagen interpretation, in which wave–particle duality is one aspect of the concept of complementarity, that a phenomenon can be viewed in one way or in another, but not both simultaneously.”<sup>7</sup> Clearly, as we may note here, there is no duality; a particle is never really a wave in the same way the stills on frames of a projector are never actual moving, they always remain static on each frame and consequently remain in “particle” form therefore the Copenhagen interpretation may be a little misleading.

If matter is always a particle that constantly refreshes, then this begs the question – *What is matter?* Do human beings really understand what it is? How can something tangible and dense constantly refresh? The answer quite simply is that either it cannot or is inherently an intangible substance. It is also

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<sup>7</sup> Wikipedia (2010) “Wave–particle duality”

possible to conclude that in the same way matter seems be a wave (to move) when it in fact it is always a particle (is static), matter also appears solid to perception when it is in fact an intangible substance. In order to be able to refresh it must remain constantly intangible. The only force of nature capable of generating a Universe such as this is one that is built to function on informatics. Therefore, matter may not and may never be a substance, which technically means, like durational time to the human mind and perception, tangible matter per say does not exist; it consists fundamentally of no more and no less than information. This, once again, may be another giant leap of faith for theoretical physics. However, the sooner this inference begins to be understood it is likely the more quickly technical barriers holding physics back from what it can achieve will begin to fall. Matter consisting purely of information may make the world we exist in possible. Understanding this requires a paradigm shift in how human existence is quantified. By behaving like information matter is less constrained and therefore able to abide by the general properties and laws of physics even though under the hood it does not create these laws as conventionally as they are seen to occur. As we have seen to begin to understand the Universe certain primitive traditions have be broken away from or at least understood for what they are. In a new enlightened tradition a scientist would know that firstly, matter is always a particle, it is never a wave, secondly matter is incapable of actual motion it is always static (motion is a phenomenon of perception rather than actuality), thirdly matter is not a tangible substance as it must refresh, fourthly durational time does not exist outside experiential reality. The static nature of matter would lead to the conclusion that all forms of gravity, be they induced by velocity or other means may essentially be a form of information managed through a system of frequencies. It may be impractical to assume that objects have mass; this would be considered a form of our presently primitive human top view logic since to assume this would be no different from making a scientific assumption that when the image of a 10 tonne truck appears on a laptop as a screen saver, the existence of the truck in the laptop screen must require that the laptop now weigh an additional 10 tonnes and the manufacture of laptops should therefore be considered a hazard. The laws and fundamentals of physics can possibly be seen more accurately as a natural occurring code or living information for which the fundamental rules can be rewritten using electromagnetic signals through naturally occurring transistors in the same way that altering DNA alters the biological reality of an organism. Biological organisms are created from information in the sense that they emerge from DNA, lets refer to this as top view DNA, however, DNA itself will be fundamentally constructed from a cell-like fabric (side view DNA) and thus when consists purely of information. In other words, 10 tonnes inevitably remains just a side view idea, that when conveyed appears a top view reality. The distance “60 billion km” at the operational or information level may be no wider than the words “60 billion km” but at the top view or experiential level in the Universe humans inhabit it is a very long way to travel. It may be difficult for instance for science to accept that matter switches on and off or ceases to exist however, this process may also explain the existence of antimatter, since matter must be flushed in, in order to be refreshed, hence when refreshed inward (created) it is antimatter and when refreshed out (recreated) it is matter; creating matter and antimatter properties. Between the refresh process a decision can create a change, for example, instead of remaining at rest a capable object may decide to move, this kind of autonomy would be impossible

without the ability of matter to refresh so as to facilitate a new static position or “still” and when these static positions are strung together the illusory phenomenon of particles and objects being in motion takes place – though this process can be described as dependent on perception it forms the basis of human reality experienced through properties of the physical world. It is also possible that though matter and antimatter appear identical, antimatter precedes matter in the refresh queue; that is, a decision first takes place in antimatter which acts as a virtual precedent for matter in the same way any action a person makes (even if involuntary) must first be preceded by the thought to make it and in going back and forth between these states (refreshing) not only does matter gain the ability to move autonomously, it also gains the ability to do this intelligently. This may mean that if the clock rate between antimatter and matter could be slowed down it could be possible to observe what a particle or object will do before it does it and in reverse an objects or particles history. Most people are familiar with how alternating current (AC) switches on and off, and is capable of changing direction thousands of times per second, so quickly appliances that feed of it show no signs of this intermittence which is useful for the manipulation of magnetic fields to raise and lower voltage in the transmission of power. Understanding how television sets, plasma screens and LCDs work may help scientists understand how matter is created and answer key mysteries concerning matter such as the particle and wave form view of matter. In this arena Silva (2010) explains the “Refresh rate represents how many times the actual Television screen image is completely reconstructed every second. The idea is that the more times the screen is “refreshed” every second, the smoother the image is in terms of motion rendering and flicker reduction. In other words, the image looks better the faster the screen can refresh itself. Refresh rates of televisions and other types of video displayed are measured in “hz” (Hertz). For example: A Television with a 60hz refresh rate represents complete reconstruction of the screen image 60 times every second. As a result, this also means that each video frame (in a 30 frame per second signal) is repeated twice every 60th of a second. By looking at the math, one can easily figure out how other frame rates related to other refresh rates.”<sup>8</sup> Wiki (2011) “In a Cathode Ray Tube (CRT), the scan rate is controlled by the vertical blanking signal generated by the video controller, ordering the monitor to position the beam at the upper left corner of the raster, ready to paint another frame. It is limited by the monitor's maximum horizontal scan rate and the resolution, since higher resolution means more scan lines. The refresh rate can be calculated from the horizontal scan rate by dividing the scanning frequency by the number of horizontal lines multiplied by 1.05 (since about 5% of the time it takes to scan the screen is spent moving the electron beam back to the top). For instance, a monitor with a horizontal scanning frequency of 96 kHz at a resolution of 1280 × 1024 results in a refresh rate of  $96,000 / (1024 \times 1.05) \approx 89$  Hz (rounded down). For example, most movie projectors advance from one frame to the next one 24 times each second. But each frame is illuminated two or three times before the next frame is projected using a shutter in front of its lamp. As a result, the movie projector runs at 24 frames per second, but has a 48 or 72 Hz refresh rate. On CRT displays, increasing the refresh rate decreases flickering, thereby reducing eye strain. However, if a refresh rate is specified that is beyond what is recommended for the display,

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<sup>8</sup> Robert Silva (2010) “Video Frame Rate vs Screen Refresh Rate - Understanding Video Frame Rates and Screen Refresh Rates”

damage to the display can occur. For computer programs or telemetry, the term is also applied to how frequently a datum is updated with a new external value from another source (for example; a shared public spreadsheet or hardware feed)."<sup>9</sup> In economics countries realize only as little as 1%-10% of their actual growth potential and economics is unaware of the tremendous loss of useful economic resources to implosion. Therefore implosion creates a volume of "dead space" or inactive resources in economics responsible for scarcity and poverty. The absence of knowledge of a refresh rate for matter may similarly disrupt progress and what is achievable in physics. Though visibility is a top view concept the fact that it is processed is a side view phenomenon.

If the nature of matter has been correctly perceived here, then what has been inferred thus far allows us to understand not only what gravity is and where it originates from, but also how matter and mass are created. Let us explore this further. According to Wikipedia (2011) "In everyday usage, the mass of an object is often referred to as its weight though these are in fact different concepts and quantities. In scientific contexts, mass refers loosely to the amount of "matter" in an object (though "matter" may be difficult to define), whereas weight refers to the force experienced by an object due to gravity. In other words, an object with a mass of 1.0 kilogram will weigh 9.8 newtons (newton is the unit of force, while kilogram is the unit of mass) on Earth (its mass multiplied by the gravitational field strength). Its weight will be less on Mars (where gravity is weaker), more on Saturn, and negligible in space when far from any significant source of gravity."<sup>10</sup> Technically the object's refresh rate determines both its mass in Kilograms and its gravitational field strength. When an object's location is changed, e.g. when it is in space, Mars or Saturn its refresh rate is altered consequently altering its weight. An object on earth in one location weighing 1.0 kilogram who's refresh rate is altered can weigh more or less than 1 Kilogram as a result of an altered refresh rate affecting its gravity. This implies that contrary to conventional thought gravity is responsible for inertia in that even a bowling ball in space being physically moved around experiences changes in the frequency of its refresh rate and consequently exhibits inertia. At this stage we can attempt to make yet another inference, and this is that, if it is true matter refreshes "on and off" then it must be held in a repository of sorts during its off phase when in experiential terms it "ceases to exist". If this analysis is correct then then as we have deduced matter behaves more like information than a real "substance" and it can be said to be held informatically during the "off" phase in what we will choose to refer to as a cell-like substance or fabric. Consequently to accommodate refreshing a greater understanding of matter and the underlying cell-like fabric holding its pattern in place between refreshes may be required. In order to be viewed simultaneously matter cannot move from point A to B in "space" intact or unaltered, even if point B is in the same location as point A. At this stage it is possible to presume matter refreshes 90 billion times per second, this will be explained shortly. It must first disappear completely (refresh) with incredible speed in the act of moving from point A to B; it may only do this pragmatically if it exists like information rather than a substance. Considering the fact matter is incapable of motion, but consists of stills strung together, being able to

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<sup>9</sup> Wikipedia (2010), "Refresh Rate"

<sup>10</sup> Wikipedia (2010) "Mass Versus Weight"

refresh at such a high rate gives matter “in motion” the appearance of great fluidity. If matter failed to refresh it would immediately become stuck or frozen in its original particle form thus losing its wave property by attempting to be in two places simultaneously which would disconnect the kinetic flow (refresh) generating its mass and consequently interrupt or cancel out motion (making an object incapable of top view movement); the object would become stuck instantly losing its ability to move as a spatial property, to borrow from in computer ‘lingo’ matter would freeze or hang up ).

This may all make sense, but, how does the process of refreshing help to explain gravity? Let’s return to the simple approach we used earlier. Refreshing allows an animator to show an object like a car at point A move to point B. The physics used to determine the car is moving at 100km/h (a wave) may be accurate according to Einstein’s model yet by understanding that each vehicle on each page is *standing still* allows us to assume Einstein’s model may in fact be a limited way of understanding the Universe. If this is true, and matter is in fact incapable of motion, then we must look for another source of the vehicle’s weight and momentum other than its velocity. If for the sake of having a construct, matter is derived from the refresh rate, then we may be able to conclude that the number of refreshes or the refresh rate not only causes condensation that creates matter but also determines how light or heavy an object consisting of the same matter will be. In other words matter, an object’s mass, weight and specific gravity are generated by a refresh rate.

If matter at the operational level moves using “kinetic” transference through still frames then the “vacuum of Space” is itself a speculative concept since in actuality there is no medium being penetrated, no real resistance and density will be determined by the rate at which matter transfers from one “position” or “page” to another creating a possible condition of a substance with high density but very low resistance to this specific flow. For example, electricity at the top level may merely mimic how matter itself from the side view is animated in Space. Wire is a dense material, however, the ease with which electrical current passes through it could be compared with the ease with which light passes through glass leading to the erroneous conclusion the wire and the glass are predominantly a “vacuum”. In other words human beings cannot rely strictly on top level perception to make assumptions about physical properties of the Universe. Similarly if matter, being electrical in nature and consisting primarily of information is able to “move” through “Space” which is in fact mislabeled as distance in Einstein’s model then it follows physics cannot be certain Space is not a solid, highly dense substance endowed with properties that allow it [matter] to move as though it is in a vacuum when in fact no such vacuum exists, that is, the vacuum of “Space” is in fact a solid, dense substance giving some credence to the theory of it emerging from a cell-like fabric. According to Einstein himself, “When in the first half of the nineteenth century the far-reaching similarity was revealed which subsists between the properties of light and those of elastic waves in ponderable bodies, the ether hypothesis found fresh support. It appeared beyond question that light must be interpreted as a vibratory process in an elastic, inert medium filling up universal space[sic distance]. It also seemed to be a necessary consequence of the fact that light is capable of polarisation that this medium, the ether, must be of the nature of a solid body, because transverse waves are not possible in a fluid, but only in a solid. Thus the physicists were bound

to arrive at the theory of the "quas-irigid" luminiferous ether, the parts of which can carry out no movements relatively to one another except the small movements of deformation which correspond to light-waves."<sup>11</sup> The evidence of this fabric which may be in a solid state may become evident when the refresh rate (number of pages flipped) of matter either increases or falls which creates a resistance or field effect we refer to as gravity, mass etc. Since, as explained, the source of Newtonian forces, including inertia, when understood at the operational level are created by neither velocity nor acceleration then we need to search for other unifying sources or causes for forces evident in weight, mass, gravity and inertia." As the cartoonist flips each page to generate a moving vehicle there may be a transfer of kinetic energy that manifests itself to the observer as a wave, movement and as mass, which is why, even objects with "no velocity" relative to other objects that are, for example, as large as the Earth create a gravitational field. In other words though they are "standing still", the fact their *standing still* continues to be generated by the "cartoonist flipping pages" (the refresh or frame rate of matter) causes a gravitational field effect rather than the displacement of Space-Time proposed by Einstein. The process of refreshing cannot strictly be described as a vibration such as the example of a guitar string used to describe String Theory for one simple reason; this type of vibration does not accommodate the disappearance and reappearance of matter when it refreshes. It is possible that it is the nature of this transference or kinetic energy that is creating mass rather than the movement of the image since in reality or at the operating level its velocity (on each page or frame) is always zero. Using this logic a wrecking ball knocking down a wall does not gain the energy with which it knocks down the wall from its momentum, since its speed and velocity are always zero. It is gaining this weight, gravity or force which knocks down the wall from some other phenomenon taking place behind the scenes. Remember earlier we estimated that matter refreshes 90 billion times "per second", 90 billion is representative of  $C^2$  in Einstein's  $E=MC^2$ . Light may refresh at a rate of  $C^2$  and therefore appear to weigh 0 and in terms of visibility appear to travel at a rate of  $C$ . If a form of matter refreshes at  $C^2 \times 10$  then it is refreshing 10 times faster than  $C^2$  and therefore has a mass of 10, but this also means an appropriate disruption to the refresh rate is capable of displacing matter by a force of  $C^2 \times 10$ . Let's refer to  $C^2$  as the frame rate and 10 (10 times per cycle) as the pulse rate; combined they account for the amount of energy in matter. Hence we see a weak force, the pulse rate which in this example is 10, interacting with the strong force  $C^2$  to produce a mild gravitational force of 10. It makes sense that matter would refresh faster than the "speed" of light, since the refresh rates constitutes light itself. An object that weighs more will be one that refreshes or pulses more times per frame. Consequently, this approach may identify where the energy in Einstein's mass energy equivalence theory originates. The hypothesis here is that for every mass unit change in the refresh rate e.g. if the refresh rate changes by 1 per cycle there will be a change in mass or gravitational effect with a force of  $MC^2$  of the object displaced. Were this frequency is isolated to affect weight (weight and velocity having the same source i.e. the refresh rate) then the object should be displaced by a force equivalent to  $MC^2$ . If this is true then even the minutest changes in the refresh rate can dramatically alter an object's mass or weight, this would entail that very

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<sup>11</sup> Op.cit. Albert Einstein (5<sup>th</sup> May 1920)

little energy would be required to cause displacement or to induce a gravitational effect in an object; *if how to electromagnetically alter its refresh rate were known*. It would also imply that unlike the primitive combustive force  $E=MC^2$  all matter inherently contains an *elegant force* or *elegant energy* with which to propel itself or to be propelled. Consequently it is possible that a new equivalence exists that includes the field frequency (F) of the refresh rate that is the source of gravity, hence balancing the equation  $E=MC^2$  to  $FC^2=MC^2$ ; the Frequency of the refresh rate being responsible for gravity would entail  $F=MC^2/C^2$  or  $F=M$  (Refresh Frequency is equal to Mass). Furthermore, by inverting Einstein's equation we can see it may be possible to manipulate gravity (G) as a force by electromagnetically manipulating the refresh rate of matter in the same way  $E=MC^2$ ,  $G=FC^2$ . In Einstein's equation the atomic energy produced may be experienced predominantly as heat with which to convert water into steam and drive a turbine to produce electricity, however, the frequency equation would imply the turbine could be turned directly by the motive force G without the need for steam or heat to be harnessed, for example, in a nuclear power plant. Therefore, for the sake of uniformity if we assume a standard measure of force of a mass of 1 is 1 Newton, then an inference of  $G=FC^2$  is that an object with a mass of 10 contains within it the gravitational energy via the refresh rate with which to be displaced or propelled by a force of  $10 \times C^2$  or 900 billion Newtons. If this force is field related then it may be an elegant force which entails the manner and direction in which it acts can be controlled and manipulated. If this object were on earth it would weigh 98Kg, but only require a tiny amount of energy,  $1.09 \times 10^{-10}$  of the force in the refresh frequency to render it weightless or lift it. Jet engines produced by McDonald Douglass, Boeing and Airbus would not be as efficient as the natural propulsive ability of matter, and ideally this new approach could open a new frontier in transportation. Not only does the refresh rate determine an object's mass, it also determines how much energy it contains. If matter can refresh at speeds greater than  $C^2$  variations in the frame rate and refresh rate output gravity or mass and energy depending on how it is controlled. Heavier materials which tend to be of higher density; require more work to sustain, absorb more pulses and consequently *appear* to weigh more as would be experienced in the difference in weight of objects with differing masses. The refresh rate is constructed from a frame and a pulse. The pulse is the number of times the same frame is repeated, if an object begins to move quickly the number of pulses increases to maintain the consistency or "visibility" of matter, this consequently increases gravity which becomes apparent in the object's momentum. Similarly, moving an object and applying momentum affects its refresh rate, affecting the refresh rate of an object will change its momentum or induce it to move. Fast moving objects require more pulses to sustain their matter; a good parallel for this can be seen in how fast moving images on a flat screen become flaky or less visible as a result of the screen's refresh rate being unable to keep up with animated objects. Also when matter such as the wrecking ball "moves" it *draws* up more energy (requires more energy or pulses per frame) whose resistance consequently generates a frequency or force that knocks down the wall it comes into contact with; what confuses the observer is the apparent movement or motion of the wrecking ball which is what appears to transfer the force of the collusion, however, since we know the object consists of static frames the force of its momentum is not caused by its velocity or motion. Since the increased frame rate can be induced even when the object (wrecking ball) is standing still by altering



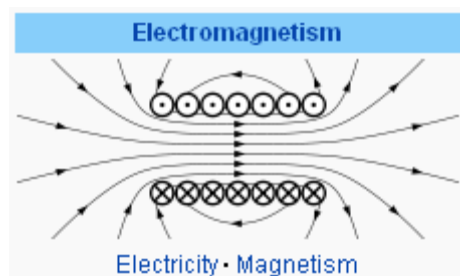
its refresh rate we should not indiscriminately tie weight and mass to velocity. Secondly, wavelength is the distance a wave travels in one second. This concept poses some difficulty since we have concluded that neither distance nor durational time may be “real”; like a mirage, they are in fact top view experiences of matter acting in its wave form that seem no more than illusions when observed from the more advanced “side view” where the wave does not travel any distance neither does it do so over any durational time (all the images on frames are stills, they are static). Why is it important to understand this? Analysis outside durational time and distance is like trying to learn a new language or evolving from a stone age to an iron age and therefore having to learn how to use iron; it may force a scientist to think differently and interpret the same ideas using different approaches. In addition to this the refresh rate may generate incredible amounts of energy; however, it is also responsible for processing reality as a form of information. Consequently, information becomes almost indistinguishable from energy or other forces and is responsible for what human beings observe as reality. This logic mechanism is equally as powerful and fixes a cap on energy allowing it to be controlled by the dictates or laws (DNA) that govern the behavior of matter and reality itself. Information, being the underlying construct of matter, space, time and reality itself entails that the experiential Universe may be very different from the more compact naturally occurring living code in the cell-like fabric that runs it. Since information is almost indistinguishable from energy regarding this science, the elegant approach is to control information and understand its properties as means to accessing energy, rather than the other way around which is the current method. In other words instead of thinking how impossibly heavy an object is to lift or that distances in the Universe are impossibly immense to traverse, or how it would take an impossibly long time to travel a certain distance, an enlightened scientist would know this kind of concept of weight, distance and time is primitive in that the object’s weight, its distance and the time required to reach it are merely a form of information which if altered would render the object weightless and bring immense distances into close proximity, the same approach is applied to energy, other forces and properties, they are not greater than that (the information) from which they are created.

### **Electromagnetism and its Impact on Economies**

Economies the world over have come today to rely on electromagnetism and electricity, not just as sources of energy but for use in mechanics, circuits, microchips and diverse technologies that not only drive industry, but that improve living standards. If electromagnetism were able to harness gravity by harnessing a refresh rate of matter the impact this would have on global development and living standards could be tremendous.

Though electromagnetism is a top view force and therefore two directional, as explained, a device can be designed or configured to generate a three directional field, possibly the only practical kind of field able to comprehensively affect the refresh rate. In other words, top view and side view fields enjoy exclusivity and act independently of one another by virtue of functioning in different planes. Note we have not used the word dimension, but direction, since these forces act in the same dimension, but in

different directions or planes. This may be why electromagnetic forces acting in their two directional state (the only state presently known) have little impact on gravitational forces and vice versa and despite being able to produce frequencies ranging from 3Hz to 300EHZ electromagnetic forces may have little effect on the refresh rate and therefore no effect on gravity ( $G=FC^2$ ). However, when electromagnetism is configured to create a three directional field it may become capable of affecting the refresh rate, and therefore gravity and the informational construct of matter (location, mass, weight etc). Electromagnetic fields that are three directional in structure should be able to leverage the ( $G=FC^2$ ) equation, however, this would entail that such fields, even if generated with very little power can be converted into large amounts of energy or force through the refresh rate depending on the efficiency of the system and can have profound effects on the state and design of matter.



Magnetism: a two directional force (Source Wikipedia)

A magnetic field, regardless of its direction or how it is assembled will tend to remain two directional. If gravity can be leveraged by so little electrical energy it is difficult to understand why scientists and inventors have not as yet stumbled upon the ability to control gravity. The answer to this is that they probably already have, but, have not had the science with which to explain what is observed. A device stumbled upon in this way would be quickly dismissed by the scientific establishment as it would appear to violate laws of physics and would require very little power to exhibit a gravitational effect. It can be deduced that it would be unique in that it would verify the presence of gravity by possibly being able to put out more energy than is being put in. This anomaly could be scientific if how gravity could be the hidden medium acting as an amplifier were scientifically explained. It would be able to do odd things such as teleport matter and energy in a small way; sounds making conversations being spoken a distance away sound as though they were nearby or energy produced in one area consumed in another, in both cases without the use of any wires. Devices such as this would confound modern science and possibly be incorrectly explained or regarded as a hoax. One such example, may be Nikola Tesla's scalar (longitudinal) waves which may merely be an alternate way of describing the refresh process, interestingly Tesla's waves appear to demonstrate the ability to "teleport" electrical energy which is seen to be transferred from one location to another without wires. Another if authentic, may be Dr. Thomas Henry Moray "radiant energy", which he was even able to demonstrate repeatedly to observers. The fact may be that such energies are energies that through amplification and other strange qualities verify the presence of gravity, gravitons or even the Higgs Bosson by acting as an amplifying

agent. Merlib (2011) states that “Far ahead of his time, Dr. Moray used a simple antenna, solid state electronic circuitry and specially designed cathode ray tubes to generate amazingly large amounts of useful electricity from a seemingly mystical source. During the 1930's he demonstrated his invention on land, in the air and even under the water to the sheer astonishment of engineers and scientists.”<sup>12</sup> If the energy generated by such devices is created by gravity causing amplification then technically it is not free energy in the sense that there must first exist an initial source of energy that is to be amplified. What Moray may have overlooked is that even the tiny electromagnetic currents picked up by the antenna could be amplified dramatically in the presence of gravity ( $G=FC^2$ ), in this case the energy would consist of tiny electromagnetic currents being amplified by gravitational forces. The reason why the ability to control gravity itself scientifically may not have been discovered as yet may reside in having no knowledge of a refresh rate for all forms of top view matter and energy including electricity. The impact on economic growth and develop scientific discoveries such as this can have are likely to be profound.

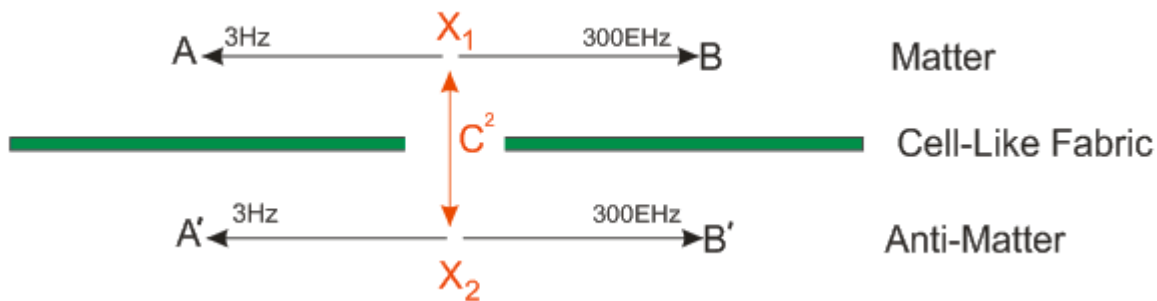
Traditionally energy in electromagnetic fields can be altered by increasing voltage and amps, the number of windings or other techniques to create a field effect, however, this approach is limited in that it may be possible to achieve more with much less energy if the refresh rate is what is altered instead. For instance the energy required to lift a mass of 1,000 (9,800 Newtons) on earth might only be  $1.09 \times 10^{-10}$  of the force contained in its mass,  $10^{-10}$  becoming the constant required to lift an object of any weight using its own mass. Considering some 12 volt car batteries hold 800 amps gravity can be an exceptionally efficient and superior medium for utilizing electrical energy in industry not only for levitation, mechanical torque used in propulsion but also for heavy lifting in construction and host of other fields. In essence, if an ability to manipulate gravity through the refresh rate were developed it could be a magnificent amplifier allowing smaller amounts of electrical energy to perform larger tasks thereby contributing to increased access and more efficient use of electricity which would lead to enhanced economic development.

Electromagnetism can be viewed as a top view force or a two directional force while the side view is a 3 directional force in that it vacillates (refreshes) into and out of two directional Space thereby generating mass. Consequently, electricity and magnetism mimic side view forces like gravity with the exception being that frequencies of electrical forces vacillate within two directional Space. Interestingly, electrons may only exhibit two directional forces, nevertheless, since they consist of matter and have mass they are fundamentally constructed from the side view; this means they refresh. What this entails is that gravity and electricity are a conjoined force and that electricity inherently carries gravity and vice versa. We are already acquainted with fields generated by static and motive forces. For instance, electric and electromagnetic fields. Wiki (2011) “The field can be viewed as the combination of an electric field and a magnetic field. The electric field is produced by stationary charges, and the magnetic field by moving

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<sup>12</sup> Modern Energy Research Library (Merlib) (2011), “Free Electricity Generated From The Radiant 'Cosmos'”

charges (currents); these two are often described as the sources of the field.”<sup>13</sup> However, we can also infer that these fields are generated by a process that may be similar to the refresh rate of the object’s (current and spin) which is why it is possible for electricity to generate a field when it is standing still (static) and when it is moving (current). We have observed a similar property with gravity through the idea of a refresh rate; though the results are similar it should not be assumed they are caused by the exact same properties.



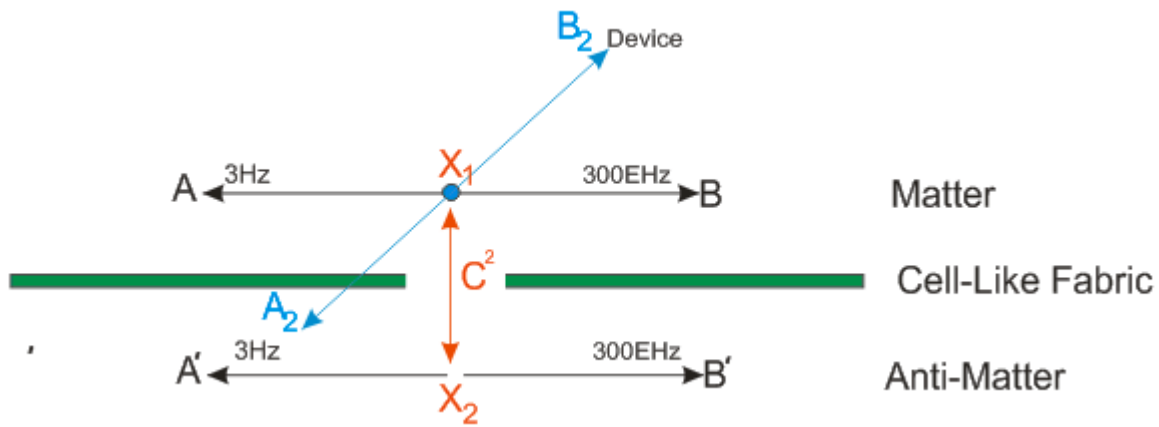
$X_1 X_2$  Refresh plane (side view)

AB Conventional plane (top view)

Only one dimension is required to create a three directional world, however, AB in the diagram represents what is conventionally referred to as “three dimensional space”, therefore  $X_1 X_2$  represents the “fourth dimension”, what Einstein’s model mistakenly refers to as (top view) “Time”. Electromagnetic forces vacillate from A-B on any frequency (3Hz-300EHZ), however, because these forces act horizontally they have no direct coupling or interaction with the refresh which is created by the vertical frequency  $C^2$  (Frame), which is part of the refresh rate and the same component in Einstein’s mass energy equivalence equation  $E=MC^2$ . Though it may appear as matter and virtual matter (antimatter) it would be fundamentally information governed by the cell-like membrane or fabric.  $X_1$  represents the experiential or top view Universe. As matter exchanges or “moves” between  $X_1$  and  $X_2$  it ceases to exist (refreshes) and is only retained as information in the cell-like fabric, which is able to process matter-information across a spectrum possibly as diverse as that of electromagnetism. In *the top view* Matter begins to gain mass (become tangible) at a refresh rate of 90GHz or  $C^2$ . These cells function like transistors or “cells” and process or control the size, location, mass, behavior, molecular structure of matter in its various states and levels (e.g. quantum level, strong interaction, weak interaction, electromagnetic interaction and gravitational interaction), the cell-like fabric would be responsible for the diversity and complexity of matter and forces; and as it retains their properties or design, it is basically informational DNA. Should any aspect of this DNA change, the state of the matter at  $X_2$  then  $X_1$  will change, that is, it may first be altered virtually then physically allowing the refresh to

<sup>13</sup> Wikipedia (2010) “Electromagnetic Field”

be processed or analyzed by the fabric, however, the speed at which this differentiation takes place may be so great as to make antimatter and matter appear identical.



$A_2B_2$  is a coupling effect that leads to resonance

It would seem the most practical way of controlling gravity would be to build a device that is able to redirect the angle of the electromagnetic frequencies of an object such that they are tuned or angled from the vertical plane (AB) to the normally inaccessible horizontal plane( $X_1X_2$ ). This angling is in fact a coupling created by resonance such that it access the refresh rate. Clearly the capacity to amplify will be limited by the substance or device creating the coupling effect. By acting transversely this tuning method retains the general structure of the matter whose gravity is being altered. Earlier we noted that an object's own mass can be the source of energy used to displace it. Tuning the electromagnetic frequency of an object or an electrical current, much in the same way a radio is tuned is most likely what creates the 3 directional frequency  $A_2B_2$  until it resonates with  $X_1X_2$  since  $X_1X_2$  is essentially a transistor-like signal.  $A_2B_2$  must have a coupling effect between the frequencies operating in the horizontal and vertical planes. The most important point to remember about  $X_1X_2$  is that it is a transistor based frequency, in other words it is not just raw energy but primarily information in the act of being processed and this quality is central to understanding the science of how to access the refresh rate. It is therefore possible that this simple device will consist of an antenna to pick up the electromagnetic frequencies of a specific object or a source, a tuning circuit (tuning coil or inductor and capacitor) to control the direction of the signals and couple, bend or curve them from AB to  $A_1B_2$ , a semiconductor crystal detector or similar component to ensure the force only acts in one direction or in the direction it is pointed, and an amplifier to increase or reduce the gravitational force induced. Furthermore, the quality of the frequency is affected by its transistors properties and may play a significant role in how gravitational forces are harnessed. A transistor, to some extent can be described as self-tuning capacitor and is the only kind of device that combines electrical energy with information possibly creating the versatile signal by which resonance may take place through a coupling effect for a 3 directional force to

access the refresh rate and consequently gravity; the refresh rate may only couple with a signal that like itself is transistor based as this similarity is the basis for resonance. In other words the capacitor would have to work like or be replaced with a transistor; or the radio signal would need to be passed and processed through a transistor to gain the same qualities by which the refresh rate functions and in so doing create a similarity that produces resonance through which the coupling effect seen at  $A_2B_2$  takes place. Since we know that the fundamental refresh frequency (processing rate) of matter in this dimension is  $C^2$  resonance in the self tuning capacitor or transistor may have to approach this rate for resonance to begin to take place effectively. Clearly the inductor and capacitor/transistor would be the most important aspect of this device as how they are designed allows them to tune the electromagnetic signal allowing it to resonate and couple with a gravitational signal. In this case the artificial refresh rate being the speed at which the transistor switches on and off ( $X_1X_2$ ) to induce a vertical pulse in a horizontal electromagnetic signal (AB). It should not be forgotten that since electricity and electromagnetic forces also naturally refresh they form a linked or unified force therefore it can be deduced that one can access the other through the correct design of the inductor and capacitor/transistor problem which requires researchers and experimentation to find the answer. Resonance may be one theoretical method for harnessing gravity, however, there are likely to be other more direct methods once more is known about it.

Should matter consist primarily and fundamentally of information then nothing is impossible. Setting aside arguments concerning the technological validity of anyone's attempt, be they distinguished physicist or quack inventor, at creating free energy the fact remains human ingenuity will continuously search for methods and devices able to produce more energy at lower cost. Economic policy and governments in general may need to be prepared for a zero cost energy scenario and how to manage this potential eventuality. This is an area where it is not safe for economies to bury their heads in the sand on the assumption these technologies are the work of quacks or in terms of validity have no real scientific backing or evidence. What should be of more interest to governments today is not whether these approaches and technologies are viable, but rather whether they have in place policies and legislation that will cover free or zero cost energy should it ever, without warning, become mainstream science. Tesla's Wardencliff Tower regardless of its demise is a good case study concerning the potentialities of zero cost energies and economic or business policy. It is alleged that J.P Morgan's response to Tesla was that *if he couldn't put a meter on it, it wouldn't work for him*. What failed in this context may not have been the inventor or the investor, but the lack of legislation and policy at the time that would have allowed zero cost energy whether viable or not to become both a technological and commercial success. Therefore, first and foremost the problem may not be the technology, rather it may be a lack of government legislation and policy around the world through which its implementation becomes practical – whether or not the technology is presently viable or exists. The idea that energy will ever cost nothing, even if obtained at zero cost is very unlikely. What is likely is that energy will become cheaper and any revenues lost from lower cost will be regained from increased access and higher consumption resulting from increased economic growth. Governments today are willing to

tolerate free access to free energy such as solar, water and wind power and so on only because they are not zero cost energy systems in that they expensive to acquire and therefore tend to pose less of a threat to conventional sources of energy whose revenues support and sustain the energy sector. Anyone who can afford to, can put out a solar panel or windmill in their backyard and enjoy free energy; however, because these renewable energy source have a cost structure they fit in with mainstream energy source. The absence of this cost factor is what makes zero cost energies hypothetically impractical. Therefore, even if modern day inventors were able to invent devices able to produce energy at no cost or at very low cost it is likely that governments will inevitably levy specific rates on energy that is obtained in this way; for example, if you could stick a rod in the ground that costs ten bucks and power your household or business forever without spending another cent on energy this would be an example of zero cost energy. Though the energy is costs nothing to access businesses and households may at some point still be required by law to have their consumption metered and to pay the government and a supplier something for the energy they consume ensuring there is no revenue vacuum in the evolution from one technology platform to another. A government may set the price of this metered free energy such that it fits in with the price of other conventional sources of renewable and non-renewable energy allowing a safer introduction of these new technologies and whatever additional benefits they may bring by further diversifying humanity's energy sources. Even if a person invented a device that allows water to be poured into a car instead of gasoline; energy obtained in this way would be classified as a zero cost energy and still be required to be measured and effectively priced by government. It might be cheaper but it would not be allowed to arbitrarily devastate other energy sources in the existing renewable and non-renewable energy sector. In this regard the price of zero cost energy of this kind would be known even before it was invented. This creates more options for the commercial and public sector involved in the supply of energy. Therefore, it may be practical for governments today to put forward legislation that requires a device that produces zero cost energy, even if it does not as yet exist, to have the consumption of power metered and work out a practical price per kilowatt of zero cost energy (built on a model based on the cost of the device weighed against its energy output) to be paid to the provider even before such a device has been officially invented. Not only would this policy incentivize investment in new and cheaper sources of energy by allowing inventors and investors to forecast potential benefits, they would also be a useful source of government revenue. There may be no use for zero cost energy and it is likely to remain a fringe science if its implementation will never be practical. Governments could learn from the cell-phone industry; no one is charged for being able to talk, like zero cost energy everyone speaks for free, but when people and businesses speak through a device they are charged something, but the providers need a license to provide the service to national economy as it is sensitive sector. Similarly, governments in national economies should be able to sell a limited number of "zero cost" energy licenses in the same way they sell cell-phone network licenses, mining licenses and so on allowing energy companies to bid for them. Consequently, this allows zero cost energy to become as viable an investment as an oil-rig, natural gas, hydro-electric dam or a wind farm. Governments need to predetermine how the equivalent of a "barrel" of zero cost energy will compare to a barrel of oil, kilowatt hour of electricity and so on allowing a

competitive pricing mechanism even before zero cost energy exists – this is no different from an early warning and control mechanism for the energy sector. The oil, solar power, water and wind farm industry for instance needs to be able to use this legislation to see how their products will fair against zero cost energy and have the reassurance it will not put them out of business. Even if a person woke up today with a device that costs next to nothing to build but that produces enough energy to power a household or business indefinitely, existing energy companies would not feel threatened due to the fact legislation already exists for how energy from such a device should be priced in the energy market and how its entry onto the commercial market requires a government license; this would allow zero cost energy to gain respectability, credibility and be mainstreamed as is any other type of energy. A company that bids for one of these licenses should then be able to use the business model, policy and legislation to forecast the revenues it could earn if it invested in this area. The world's leading oil, gas and clean energy companies which have the financial muscle to invest in, mass produce and mass market these new “zero cost” energy technologies as they would invest in a hydro-electric dam, solar panels, wind farm, an oil rig or natural gas pipeline need to be able to see how their introduction can lead to increased energy diversity rather than a confrontation otherwise zero cost energy technologies are unlikely to see the light of day, will be resisted by powerful groups who see them as a threat or if they do emerge the unplanned changes they can bring to the energy sector could be cataclysmic for some businesses and national economies involved with or heavily dependent on energy derived from renewable an non-renewable sources. Unless the energy sector and governments become proactive about how the concept of zero cost energy can be integrated into an economy and provide the necessary pre-emptive legislation and price mechanism, advances in technology related to making energy cheaper, more diverse, accessible and more widely distributed are unlikely to come to maturity or if they do may have an unpredictable impact on the energy sector.

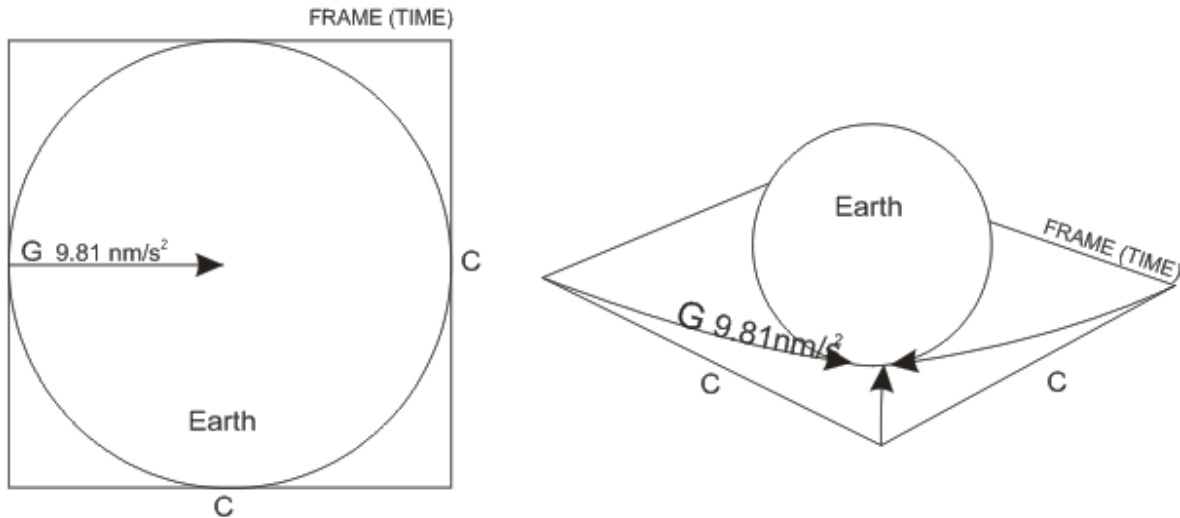
### **Economics and Matter: Is Matter a Commodity?**

Matter is central to economics. Until recently many Central Banks followed a gold standard. This means the money they printed and released into the economy was backed or determined by how much gold there was in the Central Banks vaults. We have thus far been able to determine all matter consists of information. What we have not explained are the steps from the form a commodity is observed in and its actual construct as information.

Thus far we have been able to deduce that though quantifiable factors do change to create the illusion of distance and time, they should not be thought of as changes in the primitive present day concept of length travelled and duration elapsed; but rather as changes in other higher order properties related to informatics. Therefore, one can agree with Einstein's theory that mass appears to increase with velocity, however, one might disagree with Einstein in that the source of the increase in mass is ultimately not the object's velocity but a change in its refresh rate and the refresh rate is fundamentally governed by the information it carries which can ultimately decide the behavior of a force, for instance, determine if it is a weak or strong force. Importantly, we can at this point deduce that mass and gravity whether

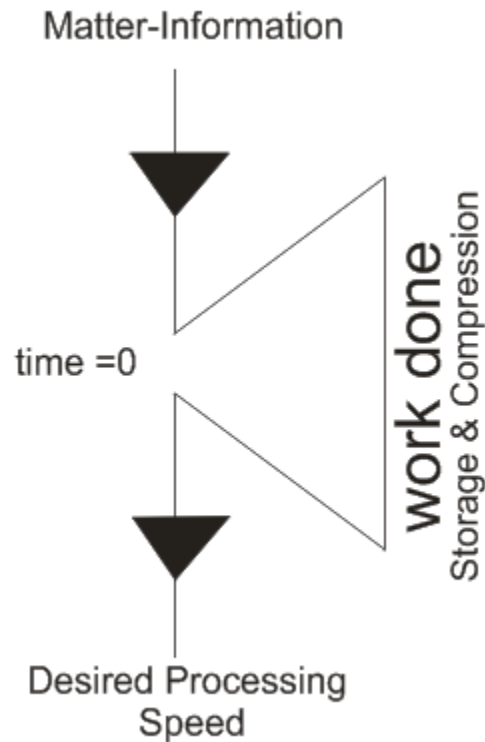


created by “moving” objects or objects “standing still” have the same source. This allows us to deduce that informational DNA can be reconfigured to arrive at specific conditions, for instance, an object can approach the speed of light, however, if the information in its refresh rate isolates this velocity and is unaltered its behavior will change and mass will not increase despite moving at light speed.



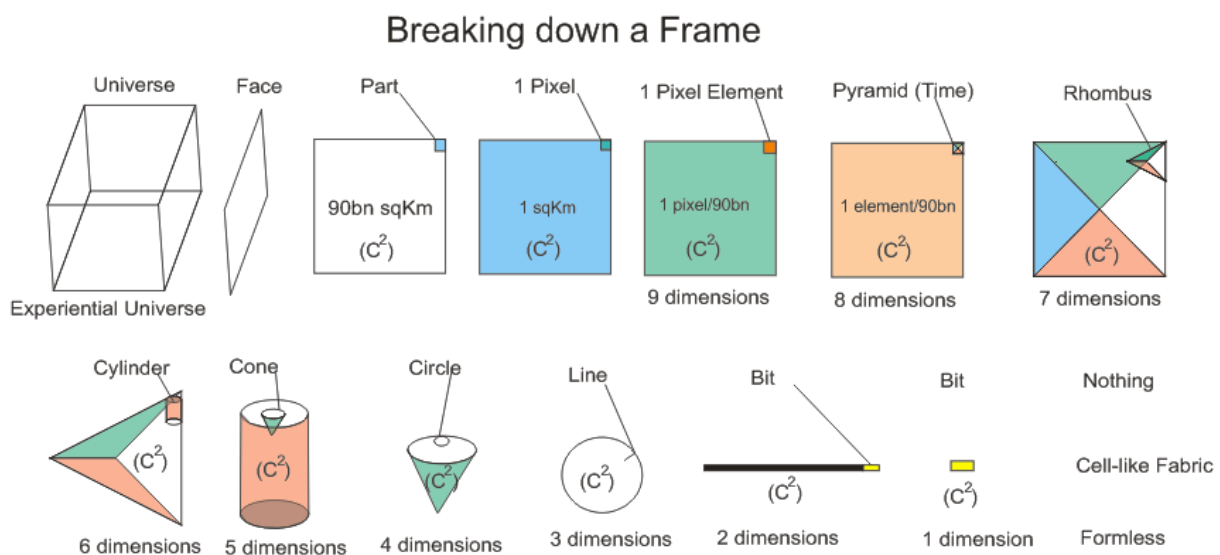
We can draw parallels between Einstein’s frame and the frame we propose is part of the refresh process with a few distinctions. According to Einstein the Earth’s mass exerts pressure on the frame C or Time creating gravity, however, we have instead deduced and proposed that it may be the Earth’s frame rate combined with its pulse rate (refresh rate) that not only induces gravity creating the Earth’s mass and gravity but that also condenses and holds the matter which creates the earth. If minerals and other commodities are created from information how would they be structured? We can further simplify these concepts by using another analogy; a refresh frame might be compared to the area of a frame of film or that of a digital camera’s photo. A digital image, like a bar of steel, may simply appear as an image when we observe it, nevertheless, closer scrutiny reveals the image is fundamentally constructed from information. A digital camera may take a 20 megapixel picture, which basically entails it is built from 20 million tiny squares or dots. However, since space is 3 dimensional let us assume it is made from layers called “faces” that when placed side by side create cubes with 6 sides. This entails a 20 megapixel image of this kind would consist of 120 million 3 dimensional pixels. We know that each refresh frame at the experiential level consists of  $C^2$  or 90 billion pixels. It is also known that matter, unlike a photograph of something, has internal micro-structure and intrinsic qualities referred to in physics as Time, Space, Energy, Location etc. Therefore if we take away one side of the face of the cube we find that it is constructed from a 5 sided object or a pyramid. In doing this we move theoretically from 3 dimensions to 4 dimensions, that is, begin to assess the role of Time. In other words to access Einstein’s fourth dimension we are not adding to the complexity of the cube (three dimensional space) as Einstein’s model does, instead we are subtracting from it, in the same way, as we explained earlier, a

scientist in order to think four dimensionally removes or suspends the existence of durational time. If a face is removed from the pyramid we find it in turn is constructed from a four sided object or rhombus. Removing a face from the rhombus reveals it in turn is created from a 3 sided object or a cylinder. Taking away a face from a cylinder shows it is constructed from a two sided object or a cone. A face removed from the cone shows it is constructed from a two sided object which might resemble a sheet of paper. Removing a face from the two sided object reveals it is created from an object with 1 face, that is a sphere or circle. Each of these faces represents a form such as Location, Space, Time etc that constitutes a property of the matter created. If the final face is removed from the circle we find it is constructed from a dimensionless or formless straight line. Removing the straight line reveals it is created from a single formless pixel-like dot, except it is no longer a pixel, but resembles a single "bit". If this dot or "bit" is removed we find that it in turn is constructed from nothing, in other words it is constructed from something but not from any of the forces or faces that preceded it, and this is the cell-like fabric. Consequently let us choose to distinguish this from a bit of information from a computer by referring to it as a cellular-bit. A cellular bit is different from a computer bit in that it is responsible for creating or generating genuine matter. Each face represents 1 cellular-bit of information. This entails that each pixel element is created by 8 cellular-bits (dimensions 2-9), but it takes only 1 cellular-bit to process 90 billion cellular pixel elements; a feat it *appears* to perform in 1 top view second. Exceptionally fast processing speeds allow protons, neutrons, electrons etc to be created from as little as 8 bits of information. Though simple, the cellular-bit is responsible for all the forces, energy, matter and all the complexity of the Universe which may consist of 7 dimensions with form and 2 formless dimensions. The formless dimensions may consist of patterns or code (dimension 2) and the cellular bit itself (dimension 1). It may take only 8 cellular bits to assemble 1 pixel element, but the smallest unit part of matter could be assembled from 90 billion pixel elements, yet use up only 8 cellular bits to achieve this since a single cellular-bit is able to do the work of 90 billion cellular bits per "second" or  $C^2$  using time as a system for compression. How? This is like storing a 20 megapixel image on 1 byte by using a compression technique where a processor reads 20 megapixels in one second while it stores and processes the information outside time (in between dimensions, that is, the off phase). This allows properties of time itself to be used as a virtual system for storage (instead of conventional past and future).



This can be likened to downloading a 30 gigabyte file that takes a broadband connection 24hrs to complete in one second since the compression technique is to fold the 24hr period using time as a dimension (rather than duration, i.e. past and future) thus making it appear as only one second to the experiential observer (see diagram). This property highlights some of the potential peculiarities about time as a resource. Technically, the Universe would view the use of time as a means of duration as a waste of an important resource, in the same way that extensive distances actually consisting of millage are considered a waste of space. Consequently, the Universe may not use time to generate past and future, i.e., duration, which it can do easily with code; instead it maintains a continuous present and may use time (past and future) to compress incredible amounts of data or matter-information which it uses to feed its natural processor or cell-fabric to create multiple dimensions and the independent conditions within them. This entails that other than analogue and digital or solid state methods of storage presently known to science there may be a fourth method of storage and compression far more superior, however, for technology to access this advanced approach how time is perceived has to change; its utility value is not merely a ticking clock measuring duration, neither is it motion but an inter-phase phenomenon able to exploit the off segment of the refresh process. In other words instead of a ticking hand moving from one digit to another each time the hand moves it has to be perceived to “tick” into another corridor between dimensions outside the continuum through the off phase and whilst it does so durational time in the continuum it has left ceases to change allowing the data that has left to appear to be altered at what would be perceived as incredible speed when it returns. This no different

from playing a recording at 10x its normal speed as the chronological integrity of the data is not affected by the speed at which it is played, similarly the duration the data spends folded out of the dimension it is sent from for storage and compression is irrelevant to the user who perceives it as instantaneous when it returns. If this hypothesis is true, the cell-fabric is able to process matter-information of any size at infinite speed. Access to this kind of system is possibly what would make size, distance, mass weight, duration and even time itself irrelevant as limitations to the Universe. Matter is fundamentally information therefore the process may not be hindered by aging; the chronological age of the experiential view is itself merely information, hence, matter going through this process would not appear to top view scientific analysis to have aged, this would only be determinable by the nature of the natural code used to run it. This is made possible by being able to exploit the off phase of the refresh rate of matter-information where this processing or storage takes place while time is suspended for the user or observer at the experiential level. For chip manufacturers like Intel and AMD, should it be discovered that matter refreshes, the relevant properties of this process could lead to a whole new generation of chips or processors able to achieve processing speeds and feats as yet unheard of or that no matter based system can compete with. Cellular-bits are proposed to refresh at 90GHz in our Universe which is the frequency at which information is able to materialize or gain interactive mass and behave like a substance, however, 9 structural dimensions, like scaffolding or helixes in DNA, may constitute the human existential experience and would consist purely of information arising from and contained by the cell-fabric; what in scientific terms may be referred to as the Ether and in religious terms as the Spirit.

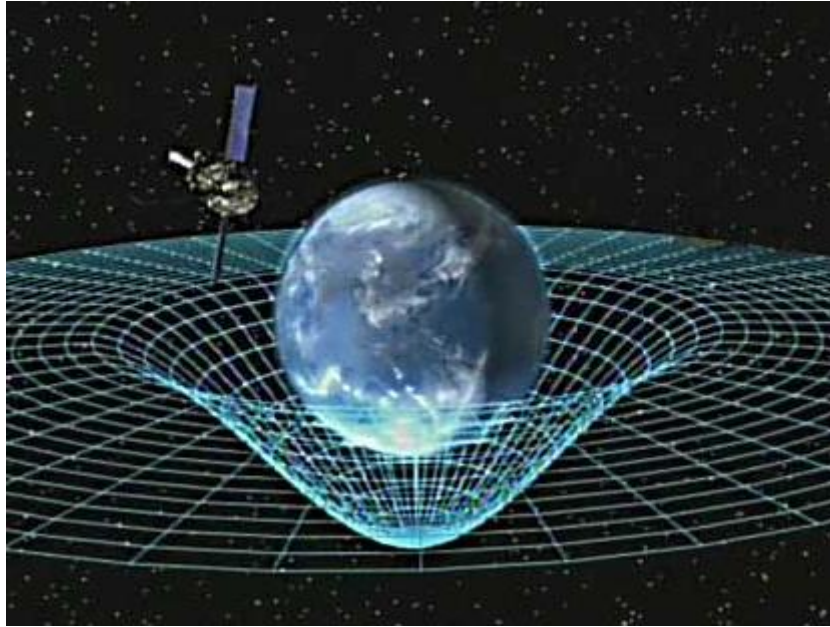


The standard model can only explain physics as it pertains to the 9<sup>th</sup> dimension in the diagram at what seems a superficial level, this is due to the fact that everything from the eighth dimension downward consists of information, that is, code not experientially tangible matter. Wiki (2010) explains “The

standard model of particle physics is a theory concerning the electromagnetic, weak, and strong nuclear interactions, which mediate the dynamics of the known subatomic particles. Developed throughout the early and middle 20th century, the current formulation was finalized in the mid 1970s upon experimental confirmation of the existence of quarks. Since then, discoveries of the bottom quark (1977), the top quark (1995) and the tau neutrino (2000) have given credence to the standard model. Because of its success in explaining a wide variety of experimental results, the standard model is sometimes regarded as a theory of almost everything.”<sup>14</sup> A pixel element may be the smallest part of informationally substantive matter. The term substance has to be used carefully since matter is likely to be instructed by code to only be substantive (solid) to itself, that is, other matter of the same quality otherwise multiple dimensions would be unable to occupy the same location. Consequently, if matter were broken into continually smaller parts it would eventually disappear (from 9<sup>th</sup> to the 8<sup>th</sup> dimension) as it is created from information which will appear inaccessible to matter, namely the cellular-bit, the earliest part of what in religion would be referred to as Spirit or to science as the Ether. If a pixel element is further scrutinized it may be found to consist of a “pyramid structure” algorithm or programme at which point the concept of size becomes irrelevant since technically durational time ceases to exist at this level throwing the limitations associated with size out the window; all concepts of dimensions, size, time, space, weight and distance after this point are merely fabricated by the code or pattern of cellular-bits processing information as matter. This entails that gravity itself which gives objects mass is not much more than an algorithm written in cellular-bits. Protons, electrons and artifacts of the standard model begin to be observed at the 1 cellular-pixel level but are made up of 90 billion cellular-pixel (c-pixel) elements each constructed from 1 to 8 cellular bits. Matter, being constructed from information remains tangible only to itself and can only be considered as concrete as the information it is constructed from or its relevant code. As the diagram shows the Universe consists fundamentally of information. Technically all forces and forms of matter known to humanity would be created from single cellular-bits processed at 90GHz which is  $C^2$  in Einstein’s mass energy equivalence equation, the frequency at which matter becomes material in humanity’s continuum. The 3<sup>rd</sup> to the 9<sup>th</sup> dimension would all consist of addresses and patterns, algorithms or code (DNA) which are observed as laws in physics for the fundamental constitution of matter formulated in the second dimension which itself consists fundamentally of raw cellular-bits from the first dimension. Consequently, the constant  $C^2$  which is the processing rate or frequency of cellular bits, can be carried right through to the experiential Universe as though it were a single frame. We see that not only may matter be created from a form of naturally occurring informatics, so too may all the forces associated with physics and reality. These naturally occurring codes and algorithms may govern the properties of matter humans have come to refer to as nature and laws of physics such as strong and weak forces, however, being fundamentally constituted from natural informatics entails that these natural forces examined in physics and other sciences can be programmed or reconstituted to behave in any way desired.

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<sup>14</sup> Wiki (2011) “Standard Model”



Einstein's Frame Credit Nasa<sup>15</sup>

Since we have removed durational time and deduced that in Einstein's model Time = 0 and consequently at the operating level distance = 0, then we can assume that a constant or frame rate for matter would be  $C^2$ , in  $E=MC^2$ . When a team of experts creates CGI showing flowing water, a flying ship, and terrifying dinosaur or a character lifting a boulder it is known these objects have no real weight, however, the program or code must be written in such a way that they are perceived to be light or heavy by the audience. In the case of the Universe matter itself is the audience or the top view which must for practical purposes exhibit distance, weight, density and mass virtues which at the operating level of the Universe do not retain these cumbersome properties as they exist as a form of code. To a film director genius such as Steven Spielberg the "frame" rate is the number of images screened per second, to a scientist this rate is also commonly referred to as a frequency. From the top view a frame may be referred to as the distance covered by light in one second multiplied by the refresh rate. However, if we assume experiential Space is curved then even though light may appear to travel in a straight line it may in fact follows a curved path. This curve may be indiscernible from the top view where a circle or curve drawn along this path will appear to humans as a straight line. As a result, the size of a frame may in fact be a circle or oval loop covering an area of 90bn square kilometers instead of 282.6bn sq km, hence  $C \times C$  or  $C^2=90\text{bn}$  square kilometers (If space were a perfect circle instead of each frame being 90bn it would be 70.65bn sq km reducing the speed of light to 265,800 km/s). However, since we know that distance and time are top level experiences  $C^2$  is in fact a frequency or "square wave pulse" consisting of  $C^2$  per cycle or per (top view) "second" or as "time" (the present) in actuality does

<sup>15</sup>Nasa (2010) <http://www.nasa.gov/>

not change. Since matter begins to take visible form at 90GHz, this value would constitute a frame. Adjusting the frequency at which matter refreshes may either increase or reduce its mass whether it is moving or at rest. Though we use seconds to measure the cycle it is known that clock rates can easily exceed this speed; furthermore a “second” is a unit of measurement coined at the top view for human convenience. Furthermore, it should also not be ruled out that the refresh rate itself of  $C^2$  or 90Ghz by which the continuum is defined is itself merely a frequency determined and set by code, hence, this rate and its relevant continuum are not “cast in stone”. Energy and gravity are distinguished from each other in the sense that raw atomic energy is emitted from matter exploiting the refresh rate while the gravitational force is emitted or harnessed by the frequency in the refresh rate itself; it may therefore be possible to convert this into either a gravitational field effect (elegant force) or more primitive heat and light used in atomic or nuclear energy. As matter or a particle increases its “velocity” it pulses or refreshes more rapidly relative to the  $C^2$  background and therefore appears to increase in weight and vice versa. This view further reinforces the idea that light observed to travel at a “velocity of  $C$ ” is itself created from a refresh rate of  $C^2$  bearing in mind that though reference is made to “the speed of light” we appreciate this speed is a top view phenomenon as in reality light does not travel any *distance* neither does it do so over any durational *time*. The refresh rate of matter may create a highly efficient mechanism for propulsion through access to gravitational forces. At this stage we begin to understand the concept of a “Higgs Bosson” (HB) as rather than being a substance is more like a force generated by the frequency (refresh rate) of matter, since we know weight does not actually exist in Einstein’s model; gravity or weight is always equal to 0 and consists of or is controlled by naturally occurring informatics in the cell-like fabric. Knowing this also allows us to understand how the Universe uses the cell-like fabric to generate mass and matter. Importantly, it also allows us to deduce that the Universe may consist predominantly of information created by cellular-bits, that this information begins to assume physical (top view) form and properties, thereby becoming tangible to itself when it is processed at refresh rates of 90GHz and above.

Trying to find the Higgs Bosson is not very different from trying to find sustained growth in economics. The main difference is that economics assumes it knows what growth is, we know this is not true as if it were poverty would no longer exist. On the other hand physics more realistically does not purport to have found the Higgs Bosson, if it had science might already have the technology with which to manipulate and control gravity which would have a revolutionary impact on human social and industrial development. The idea of the experiment at CERN smashing particles to find the Higgs Bosson can be compared to the wrecking ball being smashed into the wall. If the Higgs Bosson is the refresh rate then it may have no tangible properties, however, even so, the transistor or cell-like fabric from which the refresh rate originates may be infinitely smaller than the particles produced by the experiment that it may seem the HB fails to appear. If the processing power of the cell-like fabric generates particles as information governed by certain properties observed as laws in physics it may need to be understood that firstly the particles smashed together are not covering a distance neither are they being “accelerated” as presumed at the primitive top view therefore the source of the energy from their

impact needs to be identified outside what is understood in physics about velocity and time otherwise this becomes like trying to see the profile of a microscope by peering through its lens. Secondly, smashing particles may be like smashing together television sets to try to find the actors inside. The problem would be that there are no actors inside the television set only information and ways to process it, secondly the signal that generates the actors may not originate from inside the TV and thirdly there can be time lags between filming and broadcasting as some of the images are not live, for example, anti-matter may precede matter therefore matter itself may not be considered a “live broadcast” even though matter and anti-matter may appear identical when viewed from an alternative angle one may be seen to occur before the other; the television set like matter can possibly merely act as carrier, it does not necessarily contain all the information or properties by which it becomes manifest. An object at rest has a refresh rate that creates or generates Newtonian inertia, when the object “moves” its refresh rate frequency changes thus increasing its mass since in reality it does not actually move (distance=0). If it is stopped abruptly this frequency or “mass” is transferred into the opposing object; hence: when CERN particles or the wrecking ball move their frequency is changed and this is experienced as a top view change in mass and location. The refresh rate creates or builds electromagnetism as a top view experience, however, when matter refreshes rather than electromagnetic fields the nature of the refresh rate creates gravitational fields. When the particles collide or the wrecking ball strikes the wall it transfers this frequency to the wall which knocks it down. Hence, when particles collide it could be that they are broken apart by a refresh rate frequency, rather than the momentum or velocity of the collision since in reality the particles are not being accelerated, all the accelerator is doing is altering their refresh rate frequency visualized as movement through a ring using a primitive top level method; it may be unlikely the HB can be discovered by an experiment that uses motion or velocity as a tool in this way. Ideally the ring could be removed and the magnetic force applied to vibrate stationary or static particles using resonance to create a coupling effect that alters the refresh rate. Since motion or movement is an illusion created by refreshed frames of static matter it may be the case that the Higgs Boson and gravity can only be discovered in a controlled experiment using the resonance effect of 3 directional magnetic fields *able* to alter the *refresh rate* of matter. It is unlikely to be found using top view velocity, the very property that conceals the fact that matter constantly refreshes, this approach may make the Higgs Boson undiscoverable by using some motion or velocity based approaches where a particle is accelerated. In addition to this if resonance creates a coupling effect of high quality very little energy will be required to leverage gravity, in fact the device should be able to output more energy than is being applied to it as an indication of the presence of a gravity “wave” or the HB. A refresh rate is not a vibration in the sense that in the vibration of a string for example, the string never disappears, in the case of matter it can be described as ceasing to exist as matter or energy in any dimension whatsoever due to consisting purely of information between each refresh. Put plainly in order to find the HB the particles being accelerated at CERN should not be moving at all, they should be standing perfectly still while their frequency (refresh rate) is altered to change their mass; then only will the Higgs Boson described by Peter Higgs become visible “as a force” or a quantifiable property of gravity as it will then cause the mass or weight of objects to change which can



lead to an induced change in their velocity – a top view effect. It may also mean an object's own mass can be the same energy used to displace it, hence, even objects as large as the Earth, Moon or stars can be moved using their own mass. Consequently, it should be noted that if the equation  $G=FC^2$  were true then even very tiny changes in the refresh rate can have huge changes in the gravitational forces affecting objects therefore any such experiment should take place with great caution.

Einstein (1920) explains, "It was Newton's theory of gravitation that first assigned a cause for gravity by interpreting it as action at a distance, proceeding from masses. Newton's theory is probably the greatest stride ever made in the effort towards the causal nexus of natural phenomena."<sup>16</sup> When the world is observed from the side view the term "action at a distance" becomes an oxymoron since there is no actual "distance" separating objects. A magnetic field or gravitational field would therefore be representative of a visual top view "anomaly" since it is a force acting through the cell-fabric rather than through "distance" to adjust the information of another object. Since the speed at which the change or exchange of information takes place in the cell fabric at the side view greatly exceeds speeds at the top view it creates drag (frame dragging) thereby causing what appears to be an effect at a distance visually observed as an electromagnetic or gravitational "field." Essentially this means "action at a distance" does not require a medium since even objects that appear separated or a distance apart at the experiential level are in fact in the same place. This increases the suspicion that gravitational fields are closely related to how programmed logic gates (0-1) operate in transistors. Therefore, fields may be evidence of cause and effect created by changes in matter-information as opposed to the physical mechanics of interacting objects. For instance, if the location of an object were altered in the cell-fabric the rate at which the object would move to a newly assigned location could be so great as to stretch a frame into lines of force generating a field between the previous location and the new location creating what appears at the top view as action at a distance. Consequently fields, whether electromagnetic or gravitational, may be interpreted as changes in the informational structure of matter that existential or top view matter cannot competently "frame" or keep up with. Fields could possibly be interpreted as deformed, stretched or collapsed frames, that is frames being manipulated at rates exceeding  $C$  which at the top view create the phenomenon of a field. This would be the equivalent of an object or image moving so quickly it only appears as a blur similarly dimensional space acting at the rate of the constant  $C$  has difficulty carrying or keeping up with information altered in the cell fabric. Even a simple bar magnet for example may be able to exhibit informatics and create an electromagnetic field in this way; and a permanent field would be evidence of a repeated code, that is, an instruction in the cell-fabric for an exchange related to location to take place continuously possibly providing basic evidence of a permanently looped naturally occurring algorithm or programme which may even be found in the fabric of the field itself as a signal. Even a bar magnet with a permanent field would be representative of a repeated code mimicking or replicating how gravitational fields are created albeit in a different plane, the field exists as an algorithm in a loop and as a result creates a permanent magnet. This leads to the

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<sup>16</sup> Op.cit. Albert Einstein (1920)

conclusion even a simple magnet such as this is in fact acting as processor in the region of  $C^2$  and is consequently beginning to convert raw information into a tangible substance as exhibited by the field it begins to generate. It may also imply that electromagnetic fields are not created by electrons despite being linked to them as electrons do not have the qualities required to generate an electromagnetic field. A field can only be generated by a change in the informational structure of matter that approaches or exceeds the speed of light. This may entail that energy in the form of electricity is itself generated by a change in information in the structure of metals and other conductors with the field and movement of the electrons merely being by products of this change. In other words electricity is being created by a transistor-effect in conductors that is taking place predominantly at levels below the subatomic; it may demonstrate that a change of information in matter can spawn energy in the form of an electric charge and create a force referred to as a field similarly altering a magnetic field can have write effect causing a change in information that consequently generates an electrical charge. This would be the equivalent of electricity induced backwards, that is, instead of electricity powering a transistor to generate a processor, the transistor powers itself by generating a charge or “backward induced” electricity every time it processes information. There may be a need to consider the possibility that electromagnetic fields and electricity itself are a by product of electromagnetic forces functioning as transistors and as a conduit or logic gate for information acting in one plane. The electromagnetic frequency combined with the processing frequency by a coupling effect or resonance may create a 3 directional force able to alter the refresh rate. Hence, when an electromagnetic signal refreshes through a logic gate (which requires a transistor) the result is resonance essentially creating a gravitational field. When the apple hit Newton’s head the knock experienced would not have come from its momentum as it fell from the tree, as might easily be deduced, because in reality the apple did not cover any distance. To therefore speak of “action at a distance” is a top view constraint, since we have deduced that distance does not exist. It is therefore the frequency rather than the apple that Newton felt hit his head when it fell to the Earth and the frequency rather than the wrecking ball’s momentum that knocks down the wall and the frequency is what breaks apart the particles being accelerated rather than their momentum as they whiz through the rings at CERN since from a higher plane we can see the particles are motionless and have no velocity. In the same way that increasing the frame rate of film will make objects move more quickly and reducing the frame rate will make them “move” in slow motion, altering the refresh rate with matter may make it *appear* to become either lighter or heavier leveraging the Higgs Bosson, (If it is slower it is absorbing more pulses and therefore appears heavier) with the exception that since all the matter in the frame refreshes at its own rate different matter within the same frame has different masses. This entails that every aspect of the physical or experiential world down to the minutest detail, be it size, volume, consistency, color, weight, location and so on are determined by simple information or codes which are put together to create complex frequencies designed from information; these become matter when the refresh rate is high enough to generate mass (90GHz); this implies that virtual objects that are constructed can be converted into “real” objects using this premise. Frequencies that govern the 3 directional construct of matter, energy and a broad spectrum of scientific phenomena can be regarded as the electromagnetic DNA of the Universe.

Energy can be described as being to the Universe, what money or resources are to economics. There are two ways to see energy or resources; the primitive top view method in economics and physics, which is that it is a scarce and finite transmutable substance or the side view method, which is that energy or resources are merely information; consequently there are no limits to the amount of energy and resources available; the only limitation is the technology at hand, technology itself merely being a method for applying and manipulating information. Understanding, how money works as observed in the circular flow of income is what determines the quantity and distribution of resources; consequently there are few limits to resources humanity requires other than shortages created by a lack of knowledge or technology. At the top view the energy put out by the sun in one hour can be measured in billions of watts, however, from the side view a billion watts is just an idea or a figure, the effort required to produce it is like the effort it takes to write the phrase “a billion watts.” It is along these lines Operating Level Economics (OLE) sees poverty as a primitive limitation of contemporary economics, not a limitation of actual resources.

### **The Economics of Space**

One of humanity’s fears is running out room for itself and its “belongings”. Space to economics tends to be seen as the area or place in which human activity and productivity is accommodated.

Importantly, being able to logically determine that gravity created by acceleration, velocity and mass may have one and the same source, namely the refresh rate of matter and that the refresh rate itself arises from a form of intelligence or informatics seemingly indistinguishable from energy, may enable steps to finding a genuine “Unified Field Theory”. Einstein writes “Of course it would be a great advance if we could succeed in comprehending the gravitational field and the electromagnetic field together as one unified conformation. Then for the first time the epoch of theoretical physics founded by Faraday and Maxwell would reach a satisfactory conclusion. The contrast between ether and matter would fade away, and, through the general theory of relativity, the whole of physics would become a complete system of thought, like geometry, kinematics, and the theory of gravitation.”<sup>17</sup> On a frame of film all the objects within the frame refresh at the same frequency e.g. 25 “stills” or frames per second, however, matter as we will analyse later may refresh at 90 billion frames per second and may be more digital in that every particle is able to refresh at its own frequency and clusters of matter bundled together generate different “group” frequencies creating varying degrees of mass able to behave uniquely and interact with one another. Without these frequencies matter would be incapable of appearing to have motion, mass and distance which are referred to as wave properties. This supports the inference that a property of the frame rate is that it is 3 directional. Adjusting the frequency in a specific manner will cause the mass of an object to appear to change in a specific direction. It would be important to note that the properties of matter, its mass location, composition etc are stored as information (DNA) and it can be assumed to alter any one of these may by-pass natural laws in top view physics concerning what

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<sup>17</sup> Op.cit. Einstein

are considered the limitations of matter and how it behaves in Einstein's model of Space and Time. The Earth's mass generates a force of  $9.81 \text{ m/s}^2$  which humans experience as gravity, however, contrary to Einstein's view, the Earth's mass impinging on the frame or time may not be the cause of gravity, rather it is the rate at which the Earth's matter refreshes ( $C^2$ ) that creates gravity, the frame in which top view events occur or  $C^2$  is referred to as a dimension or continuum with an observational constant of  $C$ , the speed of light. It may be logical to conclude that to alter the frequency or the refresh rate of the Earth or an object resting on the earth will therefore directly affect the Higgs Boson, making it discoverable by altering an object's gravity. If matter at the top level refreshes on a continuum or bandwidth area that spans the refresh rate of light ( $C^2$ ) then it can be said to refresh at a rate of approximately 90bn square frames per cycle (using a top view second for a cycle and a kilometer scale for each frame) at which matter aggregates and gains mass; which may be why atoms contain such huge amounts of energy; they require tremendous amounts of processing power to create of which the Universe's cell-like fabric appears to have infinite amounts. It is important to note that the Universe consisting of a cell-like fabric *does not make it a machine* as might be thought when observed by a primitive view; its structure from the top view may appear solid, however, its consistency may be neither organic nor inorganic; furthermore the 0 and 1 system for assigning a method for processing information may be a primitive top view way of understanding a method of synthesizing information that does not use this primitive 0 and 1 method to process at all. The other tricky issue with this view is that it may imply the actual size (side view) used to generate this dimension may not appear to be greater than  $C^2$ ; what is perceived as the vastness of the Space humans inhabit and the space within atoms is in fact a form of amplification referred to in physics as "inflation" or a big bang that is constantly in effect; for instance the tiny frame on a projector creates a huge cinematic screen, however, the fact that this entire system is generated by a processor allows the cell-like fabric to manipulate the inflated screen to create more Space than there actually is the same way a tiny frame of film creates a huge viewable screen with the exception that the amplified screen is not constrained by the distances between images on the tiny frame since it is able to discard the constraints associated with distance (distance is equal to zero). The problem with this science is that mass consists of weight and matter both of which are affected by the underlying refresh rate. Therefore, in order to alter an object's weight in a specific top view "direction" without altering the constituency of its matter (the informational DNA from which it is constructed) dimensional frequency that governs weight must be known so as to only alter an object's weight but not its matter or any of its other top view attributes. Furthermore, we earlier saw how matter may consist of 7 dimensions each responsible for a specific quality of matter. This entails that the harmonics of matter need to be investigated and can only be achieved with the isolation of frequencies that ensure only a specific aspect of the object, namely its weight, is altered. This would be no different from creating a DNA map or code of all existing matter and energy at levels much smaller and finer than are currently observed at the current atomic and subatomic level, furthermore, physics would have to learn not only what the cell-like fabric is made of and what forces it uses as a form of current, but also how the Universe creates cellular-bit and writes this 0-and-1-like code. This code is so precise it naturally constructs tissue right down to the electron scale and beyond. Since the 7 formal dimensions consistently gel together, the logic here is

that to alter weight by altering 3 directional frequency without isolating the correct frequency may cause an unexpected change in an object's information causing it to become heavier, lighter, change the nature of the matter of which it consists or to move it from one location to another at a radius of approximately 300km in one second or less in the same dimension or to another dimension altogether (the object would not refresh in the same location). This is because an inference can be made that matter may become malleable in between each flicker, zero or infinitesimal "pause" between frames between when it is in its "virtual" antimatter state and held only in the cell-like fabric; by malleable it means any of its informational properties such as its location, weight, size, matter etc could change in between each flicker. Hence to alter the frequency of matter itself could entail an increase or decrease in its levels of radioactivity, size and spatial relationship which is dangerous and worse still it could cause matter to change its state and move not just from one location to another but also outside the  $C^2$  frame, that is, from one dimension or world to another. In other words it is dangerous to use a blunt tool for this kind of physics. This can be deduced because in this model and at this level matter behaves like information, natural limits or constraints of matter are no longer a limitation and Time does not exist since it is applied to separate dimensions and facilitate motion (like mass and distance, durational time as a form of duration is too cumbersome to be "real" rather it is just another form of information), therefore altering time does not move an object into the past or the future (Einstein's model), but into another dimension or location within a dimension (Einstein's corrected model). Objects can cease to exist as either matter or energy in any dimension, yet continue to exist as "virtual" information in the cell-like fabric. Time does not elapse, it instead separates dimensions eliminating the "physical" need for distance and allowing them to occupy the same Space. This is efficient in the same way that a person does not need to buy 100 television sets for each channel he or she has on DSTV or cable tv, each channel can be watched and flipped through independently on one screen and therefore in one space and watching one channel does not mean the remaining 99 have ceased to exist, similarly the vast entirety of Space or a dimension can occupy one frame ( $C^2$ ) making it easier to manage as anything larger than this is generated by informatics that manipulate and amplify. The potential difference between dimensions at the top level may be the force that creates the illusion of motion, that is, the pseudo-progression of durational time or the phenomenon of a particle appearing to behave as though it is wave. The refresh rate as a method for controlling gravity would be safe only with extensive knowledge of how to isolate frequencies and a specific knowledge of the harmonics or behavior of the frequencies employed. Nevertheless finding the correct 3 directional frequencies that control and isolate the refresh rate for weight should not be difficult when what to listen for is known since once identified 3 directional frequencies can first be learned before being exploited. In other words the frequency or bundle of frequencies almost acts as though it is a programme or code generating a specific location, object, force or event. The importance of a particle being able to behave like a wave cannot be ignored, each still frame, object or particle on a film is important but it is only appreciated when the projector reels begin to roll; however, unlike a projector there is no need for a reel since matter refreshes in place "digitally". If the electromagnetic properties of these frequencies are recorded they can be played back through a 3 directional field to safely and artificially generate the same force or

field effect that moves the ball without the danger of tampering with the integrity of the ball's construct which we have deduced as being distinct from its weight by virtue of its frame rate. It is therefore possible to create artificial gravity. The presumption is that the 3 directional playback of this electromagnetic frequency will generate a gravitational effect by altering the frame rate of the object it encounters. Consequently, transistors may be central to manipulating gravity or controlling fields as they would be required to reproduce a particular unadulterated frequency through a magnetic field in order to isolate a specific force or scientific phenomenon the transistor-like fabric of space responds to in order to produce a specific result to the exclusion of other phenomena. Without the isolation of frequencies using transistors to tune 3 directional electromagnetic fields to a specific result could have unwanted side effects. This flow of logic allows us to understand what the fabric of the Universe may consist of. Think of a broadcast that allows sound and images on television with the exception that there is no television only a processor configuring itself to act as transistor, transmitter and receiver that virtually constructs (the broadcast, sound, images on television and the viewer) these become what is observed as "physical" matter, time and space. The sound and images built from atoms upward represent complex informational frequencies all emerging from the cell-like fabric. Unlike a broadcast or video the cell-like fabric is a processor and therefore able to delimit the movement of objects screened and observed allowing them to move independently, by their own intelligence and therefore unpredictably. In actuality objects never move; however, the fact that the cell-like fabric is generating 90 billion "stills" or frames per second and in between each frame objects can independently alter their location generates the illusion of mobility.

One of the questions that may arise is that if the cell-like fabric does exist could this be "dark Matter" and could the anti-gravitational forces observed in "dark energy" emanate from the cell-like fabric. These are interesting ideas. To begin with the concept of the Universe expanding as a consequence of dark energy pushing objects apart would need to be seen as an experiential observation and that in fact operationally the Universe may not be expanding since distance has to be taken out of this deduction. Furthermore, before the role of dark matter can be linked to the cell-like fabric the fundamental informational construct of matter would need to be known otherwise it becomes difficult to theorize the operational structure of matter by simply observing phenomena in the experiential Universe.

How is it that matter can exist and yet not exist at the same instance, how can matter exist as a particle and a wave and subatomic particles appear and disappear. Interestingly, if one of the properties controlled by the cell-like fabric is the location in top view space of all matter, then it follows that if the location of matter or an object were altered in the fabric then it should be able to move to the new location slowly or instantaneously by changing form between matter and pure information making teleportation a possibility and possibly explaining how sub-atomic particles can disappear and reappear apparently in random locations of the top view; they could in fact simply be refreshing in different locations. This ability to appear and disappear may use the same process as the refresh rate; if scientists can discover how to reproduce it and the rate at which it occurs they would discover the means by which to control the refresh rate and therefore gravity. Much of the bizarre behavior observed in matter

and energy may be explained by the cell-like fabric which is responsible for the laws of physics, but that can also input any desirable behavior in matter possibly altering its properties to suite any rule conceivable. To understand how this is possible there is a need to discern between the experiential Universe and the operational Universe. As explained a probable explanation for this is that in its minutest form Space consists of a dense sea of infinitely minute subatomic particles that behave as one dimensional transistors that working together within a cell-like fabric are able to act as a transmitter, receiver and amplifier that in its minutest form is able to electromagnetically broadcast 3 directional signals through which the Universe is processed as information from each minute particle. By processing and refreshin this information at 90Ghz the cell fabric can convert information into tangible matter, yet it never ceases to be information. Matter can cease to exist at the experiential top view level, however, it is still retained as information in these cell-like fabric. For science to begin to understand these transistor-like cells on this scale physics would have to invent a microscope that can observe substances smaller than particles, even smaller than the actual fabric of an electromagnetic field with the understanding that size is ultimately created by information and consequently the smallest part of any matter is not determined by "size" but by code. Being a processor entails that the underlying collection of cells can produce anything imaginable from matter and energy, space, dimensions, mass and time to the illusion of motion and distance which may be a property of its capacity to act as an amplifier by using gravitational forces. Not only can these transistors generate or transmit an effect, they can also receive it. They constitute a self sufficient system; a processor-like structure that requires nothing more than its ability to process to create any and every imaginable aspect of the Universe. This would be achieved on a scale that would make man made processors appear prehistoric and cumbersome, for instance a nanometer cubed of what humans describe as "Space" could possess enough cell-like fabric processing power to outperform all the world's supercomputers combined. The concept that atoms consist predominantly of "empty space" may be a misnomer; this empty space may in fact emerge or broadcast from the fabric creating the transmitter, receiver and amplifier platform through which informational matter is generated. In the fabric this matter is processed like information giving rise to any conceivable type of matter created in the "particle zoo". This fabric could be infinitely smaller than a proton and smaller than quarks and electrons. From this raw processing power evolves inorganic or naturally occurring codes (frequencies) that acting as a kind of informational DNA give rise to the Universe and all the intelligence, matter, energy, forces, dimensions, other phenomena and the laws that govern them that are empirically investigated by science from the primitive top view. They are all controlled or regulated naturally by frequencies and governed by the speed and naturally occurring processor generated by the cell-like fabric. This would make the Universe fundamentally electromagnetic in nature and it will consist of layers; for instance on one layer (the top view) a ball thrown to the ground will bounce, however, at another layer (side view) the physics that governs how the ball interacts with the floor can be changed leaving it stationary when it hits the floor or suspended in the air. Building a three directional electromagnetic field tuned using transistors may create an artificial process that replicates the way the Universe naturally controls matter, space, gravity, "time", and energy. Everything viewed at the top level including electricity and electromagnetic fields has to be

viewed with caution since they may merely replicate side view forces and substances as they would be constructed from side view forces and substances which are infinitely smaller than top view substances since they function in a domain where size has little meaning; minute enough as to make them currently invisible to science; however, it needs to be borne in mind that size itself is a child of the human mind. Matter may be nothing more than a form of information, and everything else built from an endless array of infinitely minute transistor-like cells forming transmitters, receivers and amplifiers that create a fabric of Space. Consequently, size itself being relativistic, when we talk about distance, weight and time being equal to zero we may in fact not be referring to zero as naught, but as such a vast difference in size as to make two conditions incomparable at the experiential level; hence the need for amplification to constitute an important aspect of how the Universe functions, for example, a loudspeaker vibrating the width of a millimeter able to produce a sound heard five kilometers away or a tiny frame of film generating a giant kilometer scale cinema screen, it becomes difficult to reconcile a millimeter width with five kilometers worth of volume(amplification), and if there are no tools to measure the millimeter scale it appears invisible, it so infinitesimal it is relegated to zero. This infinitesimal scale is further succeeded by the absence of distance as a result of it consisting purely of code. Though matter may appear solid, in between each frame, it may exist only in the pattern retained by the cell-like fabric but it ceases to exist in its top level material construct. This would logically lead to the deduction that matter may in fact be a singular type of energy with a refresh rate, in a constant state of flux or vibration that takes the form in “Time” and Space given to it by the underlying natural processor that is the fabric of the Universe and as a consequence is rendered malleable and transmutable, that is, in between each pulse or refresh it can be (reprogrammed) changed into anything and be relocated anywhere in the experiential Universe.<sup>18</sup>

### **Economics and CGI in the Real World**

Another theory this paper should clear up to avoid confusion is that concerning the nature of reality and the role of “illusions” emerging in how humanity processes reality. Earlier in this paper it was theorized how wave properties exhibited in matter may be created by a refresh rate that makes static matter or particles in frames assume wave properties that make them appear as though they are endowed with motion. The paradox was that each of these frames is static and therefore the human experience of being in a constant state of motion is like a carefully crafted illusion. The lesson to be learned here is that illusions are a double edged sword depending on how they are used. Recently there has been increasing sophistication in the use of computer generated images (CGI) which are indistinguishable from real images. It is often believed that virtual worlds are an increasing example of how the world is becoming more artificial; however, the truth of the matter may be that the increasing use and advance of virtual worlds may in fact lead to a more authentic and more accurate description of how the world genuinely works from a scientific perspective. If this is true then humanity will increasingly and

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<sup>18</sup> Coincidentally these conclusions seem to mirror the Philadelphia experiment which is widely regarded as a hoax and the actuality of which has never been verified. See Wikipedia:  
[http://en.wikipedia.org/wiki/Philadelphia\\_Experiment](http://en.wikipedia.org/wiki/Philadelphia_Experiment)



somewhat erroneously begin to believe it exists inside a computer and that the Universe and everything in it is some kind of simulation; this would be a bit like saying the wax dummies at Madame Tussaud's look so real and life-like human beings must in reality be wax dummies or at least originate from them. A transistor is no more similar to the cell-like fabric than a dummy is to a living and breathing human being. The wax dummy problem should begin to become evident, for instance, Bostrom (2002) writes "If we are living in a simulation, then the cosmos that we are observing is just a tiny piece of the totality of physical existence. The physics in the Universe where the computer is situated that is running the simulation may or may not resemble the physics of the world that we observe. While the world we see is in some sense "real", it is not located at the fundamental level of reality."<sup>19</sup> Ross Rhodes (2001) writes "The truth is that computer generated or virtual worlds are a representation of how the mechanics of the Universe work."<sup>20</sup> This kind of thought though in its infancy and on shaky legs is highly intelligent and the evidence of it shows humanity may already be on a steady path to unraveling many of the more basic mysteries concerning the fundamental nature of the Universe to the extent that "real" or "natural" will be defined not by the construct of an object but its fundamental origin. Popular culture observed in movies such as the Matrix take a bottom up view of virtual worlds as being a form of artificial life generated by computers and consequently may encourage movie goers to draw a distinction between real and virtual worlds when in fact the principle that creates the CGI world and the empirical world may in fact be very similar. In other words CGI is not leading toward an increasingly fake representation of the world (the wax dummy effect), but an increasingly real representation of it in that the CGI, virtual world or simulation is becoming more realistic rather than Universe becoming more unreal. Eventually a virtual heart could become a real healthy heart designed and recreated for transplant that genetically and tissue wise is indistinguishable in every aspect, even age, from the patient's original heart. An artifact only a few hours old could be created which under carbon dating is determined to be millions of years old. How in these circumstances does one distinguish between the real heart or artifact and the unreal one when they are identical? Incidentally, religion claims the Earth is only thousands of years old while scientific evidence shows it is millions of years old. The only plausible way of accommodating both is if the Universe was created using informatics, the creationist command "Let there be light" would therefore be a command given to the Spirit to create a world millions of years old. In other words the true age of an object cannot only be fully determined by carbon dating, but by a genuine analysis of its code or the matter-information from which it is created. This is an ethical issue alongside the question one might pose; if scientifically motion is an illusion, is the world humans live and breathe in real? Is it too much to discover the earth is not the center of the Universe, the sun is not largest and now the world might not even be real? It is difficult to keep from bemusement with the direction this is taking. Again it is important to get this right, when it comes to CGI or simulated worlds just because wax dummies look real does not make human beings dummies or as Richard Quest in Quest Means Business on the BBC likes to say, "...one swallow doth not a summer make." However, the concept of the illusion of mobility or motion from static matter or still frames is a genuine concern. If indeed the principles

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<sup>19</sup> Bostrom Nick (2002) "Are You Living In A Computer Simulation?"

<sup>20</sup> Rhodes Ross (2001) "A Cybernetic Interpretation of Quantum Mechanics"

upon which the world is created require it scientifically to be some kind of illusion created from static matter some might argue that this view would annihilate religion. This could not be further from the truth. In fact religion seems to trump modern science in this view of the world as observed in religions such as Christianity as well as Hinduism. Hinduism ascribes Maya to this illusion, Buddhism appears to ascribe Mara to this kind of deception. Religion, long before scientific proof of the possibility of such an existence, appears to warn mankind of becoming completely absorbed or distracted by the material world, how what is observed can be an illusion and instead to look within for *the real world*. Jesus himself is believed to have not considered himself part of this “illusion”, Jesus said, “My Kingdom is not an earthly kingdom.... My Kingdom is not of this world.”<sup>21</sup> And “Seek the Kingdom of God first and all these other things will be given unto you.” And when Jesus was offered the “Kingdoms of the world” in exchange for obedience he seems to see straight through the offer knowing the seemingly invaluable material world was not ‘real’ and he revealed the only reality worthy of worship is God. Sherman (1994) writes, “Quantum physics tells us that reality is far beyond human perception and intuition. In other words, our rational mind and common sense are just not capable of understanding the true nature of reality.” As for the world consisting of information rather than matter as a substance, religion is still some ways ahead of science in understanding this. Information is essentially Spirit and constitutes what people observe as matter and the Universe, matter obeys the information from which it is created, change the information and the matter will have to obey this change. Spirit commands matter through faith. Jesus said, “If you have faith as a mustard seed, you will say to this mountain, move from here to there and it will move...”<sup>22</sup>

Legend has it that Einstein completed his Unified Field Theory but felt it was too dangerous to make public knowledge. However, the fact remains that often the application of devices does not necessarily have to wait for the science that understands them to become evident. Human beings are notoriously creative. Even today electricity and electromagnetism are not fully understood, but are widely applied. It then follows that the evolution of electronics, computing and other technologies are examples of the human consciousness naturally progressing toward uncovering the methods by which the Universe operates irrespective of the exact level at which physics understands this science to an extent that the phenomena are realized before the science that explains it is understood. People will keep evolving methods, for example, 3 dimensional television may simply be a way of gaining the most life-like viewing experience, but who is to say that this couldn’t eventually lead to a 3 directional transistor that transmits, receives and amplifies and that directly manipulates the actual properties of matter and mass for the image it creates; we can imagine, with a little humour, Sony receiving a letter from a client that their uncle fell asleep in front of the new generation 3D television and woke up inside it, so where in the user manual does it explain how to get him out? In this vein it is possible to deduce that it would be no surprise if the ability to manipulate gravity and other forces may be achieved before experiments like CERN discover what they are or how they work. The only problem with evolution that advances

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<sup>21</sup> John 18:36

<sup>22</sup> Matthew 17:20

before the science is understood is that it begins to be applied in human life and culture before the actual dangers of its use are known; an example of this is the use of radiation by shoe stores in the US to view images of client's feet before knowing that radiation can be hazardous to human health if indiscriminately used.

To bring these concepts into the 21<sup>st</sup> Century; a video game encoder and designer may be better equipped to understand this problem. The image on a laptop or television screen can change instantly depending on what signal is sent through it and as the images change the whine of the signal or frequency in the background is sometimes audible enough to be heard, matter which may be designed using the same basic principal may be just as malleable. Even the processor on a laptop while carrying out functions emits specific frequencies that can be pinned to each complex task it performs; if the frequency is known it can be used to replicate what work the processor has done. The ones and zeros or machine code that make it possible to create the virtual world and characters in a video game may be as good a tool for understanding how the Universe works as the experiment at CERN is as an attempt to understand matter and gravity. In the same way that a microscope amplifies images to reveal invisible worlds science will have to find ways of amplifying matter in order to view the infinitely finer fabric or matter if what it consists of and how it works is to be clearly understood, however, this may require a completely new and profound understanding of the meaning of time, amplification and magnification. The encoder must use machine code to create a virtual world with properties, that is, time, space, matter, energy, gravity, distance, speed, velocity and acceleration must appear to exist to a user and they form the top view. Fundamentally this virtual "Universe" is experiential to the user, but in reality all its properties are built from frequencies which form the basis for an inorganic kind of machine code, machine code itself depends on transistors which act as processors and in their most basic form these transistors are electromagnetic in nature; hence, the distance between objects and their weight in the game will appear "real" on the screen to the gamer, but to the underlying code the distance and mass is just a numeric configuration, that is, a pattern, code or a bundle of frequencies. Scientists themselves create virtual, computer generated representations of the Universe to recreate or predict how it works, when in fact the fundamentals of the virtual world they create may in actuality mimic the fundamentals by which the real Universe actually functions going through each sublevel, e.g.: user interface (top view)/ code/ electronics/ transistors/ electromagnetism and so on . It should not be forgotten that the brain itself contains 100 billion neurons that are essentially switches or transistors that facilitate interaction with the physical world. Human beings and consciousness exists at the receiver level or top view of the Universe and beneath this the actual operating level is a transmitter which in turn is governed by the transistor which forms the fabric of Space amplified for magnitude shown as Y in diagram A. In this simple trinity of components every aspect of the Universe known to physics becomes possible on a level we can call Science 101, but that we presume can be reprogrammed to create any kind of Universe. We know for a fact that transistors serve two basic functions; they act as a switch and as an amplifier. The distance between the earth and moon may be approximately 356,400km; in code this may be only a few cm (the operational meaning of distance), as a frequency it may merely be a

“squeak”, but to the user or gamer this is observed or experienced as the spatial “distance” between the earth and the moon (top view or conventional distance); similarly the code may define an object as weighing 2 tonnes or a billion tonnes, and this may become evident in the physical behavior of objects in the game, but the fact is this is merely a result of the processor conveying this in that the weight of the laptop on which the game is played (where objects weigh a billion tonnes) remains constant (on the same principal by which time also remains constant to facilitate motion and distance). Machine code itself is simply information which in turn can be further reduced to the electrical energy within the circuitry of a computer. To understand how machine code creates and defines mass and to observe how transistors use electricity and information from code to generate virtual worlds and forces can possibly provide insights into how the Universe works or does this naturally or inorganically at unconventional subatomic levels so minute in constituency they are as yet invisible to contemporary science. However, when it comes to this kind of virtual investigation it is important to remember; being able to make a dummy of the Universe, even a very good one, *does not make the Universe a dummy*.

### **God, Science and Economics**

There is a tendency to believe that economic pain and suffering in the world is an indication that God does not exist. As science probes deeper there is a tendency for it to further distance itself from religious views and beliefs; we will make an effort not to make this mistake in this paper in order to remain impartial. It would be unfortunate if a comparison made here between transistors and a Universe consisting of a cell-like fabric subtracted from the role of religion in human understanding of its own existence; consequently it should not be forgotten that the cell-like fabric may merely be a synonym for Spirit. As mentioned earlier the brain contains close to 100 billion cells called neurons, which are *biological* transistors that together help create human consciousness, personality and thought; in other words the brain may to some extent be mimicking at the physical level or top view, what the Universe does when observed from the side view in that the inference is the cell-like fabric uses infinitely tiny cells which function like transistors to generate matter-information the same way the brain uses cells to generate thought and actions; therefore even the brain itself, which is living and organic can be referred to as consisting of a cell-like fabric. Consequently, it is possible to assume these “cells” of which the Universe is theorized to be comprised are infinitely more plentiful per part than found in the human brain, are capable of having consciousness, thought, intelligence, free will and are responsible for the autonomous nature of matter even if the substance they are comprised of is unknown it is not impossible to theorize how they might work; if they were incapable of this creative, free and autonomous nature, it is possible free will or random behavior as it is understood at the top level would not exist. Furthermore, science may have no definite term for the cell-like fabric or what it consists of yet religion may refer to it as Spirit, a substance outside the modern scientific view. Therefore, for science to teach that God does not exist as proposed by contemporary genius Steven Hawkins may be premature. Furthermore, the inference by eminent thinkers such as Ray Kurzweil, that advancing technology and human evolution will lead to a superior human being as a result of humans being integrated with technology is likely to be inaccurate. Modern human technology as advanced as it

may appear is simply too primitive to provide an accurate blueprint of how humans may merge with technology as much of the technology in use today even in its most advanced and futuristic state is likely to be obsolete in the greater scheme of things. What is likely to be true is that though machines appear to have an advantage over human physiology at present too little is known to mankind about the innate complexity of biological entities to assume human technology can improve on their natural design, humans at present can only presume to improve on this design. As much as artificial intelligence (AI) may equal and even surpass current levels of human memory and analytical ability the flaw in this approach is to believe “intelligence” is a superior trait in the sense that there may be nothing special about “intelligence” especially in comparison to omniscience.

The Universe, consisting of a mysterious cell-like fabric though appearing to lack consciousness when observed from the top view could in fact be a conscious entity of a construct that defies human understanding and that science has thus far failed to provide a *modus operandi* for; that is, in terms of how such an entity could exist empirically. Religion describes mankind as being created in God’s likeness; what does this likeness refer to? If the electromagnetic fields generated by biological brain cells or “biological transistors” are similar to the principals on which the cell-like fabric of the Universe is founded then human existence in its entirety including its rationality, knowledge and intelligence must be contained as part of the cell-like fabric, it cannot be completely ruled out that the Universe is conscious and intelligent, as are human beings; observing the processing method and structure of the fabric it may in fact be unwise to deduce it isn’t. The properties of transistors are not exclusive to a machine, it is better described as a substance endowed with certain properties that can be replicated using diverse conduits of biological, organic, inorganic and even immaterial nature. From the top view matter may seem dumb, random or autonomous, however, based on the number of naturally occurring transistors per part proposed to process and create matter the constitution of the cell-like fabric from which it is constructed may be profoundly intelligent and self aware when viewed technically. Technically, the tremendous natural processing power theorized here required to generate matter and the Universe would leave very little room for denying it may have the capacity to be inherently conscious, intelligent and self aware. And it cannot be ruled out the fields generated by these natural transistors, like the biological mind or brain using its own electromagnetic properties can share thoughts via electromagnetic fields allowing for some kind of communication with the Universe. On this basis it is possible that what the Church has been trying to teach for ages, which is, that God exists, is a scientific reality; something discovered in religion long before it may be proved in science. When a person turns inward to meditate and pray or speak to God it should not be ruled out that they are indeed communicating or attempting to communicate with God. The strength of this communication could depend resonance, that is, how well linked the individual’s fields are with those of the Universe itself; which in essence are integrated and facilitate a merging of consciousness to create a form of communication seen through the use of faith, meditation and prayer; which is human behavior skeptics may scoff at albeit, prematurely. It is a well known fact that there are varying strengths and methods by which this connection is made in religion. However, even if humans were able to scientifically verify that

the Universe is of a constituency that is consciousness and intelligent, this would not be sufficient to understand or perceive the personality of an entity of this scale as it is also difficult to identify what part of human physiology is occupied by the soul; firstly the intelligence gap between the human brain or civilization and the Universe would be beyond profound and secondly not only would the Universe be intelligent, humans would be constructed from the very fabric of Its essence, even if human civilization from a hypothetical perspective attempted scientifically to communicate with the Universe, a personality trait entails it could *choose* not to respond in this way when approached. From a scientific viewpoint a Universe that is conscious and self aware may appear bizarre and unscientific. However, religion once again takes a step ahead of science by confirming a personal characteristic exists. Certain areas of Buddhism for instance may acknowledge a Universe that is conscious and self aware, but whose vastness impedes a personal relationship with human beings by dissolving itself into a collective made up of all living things, a view ascribed to by Gautama Buddha, while on the other hand religions such as Christianity vouch for the capacity of human beings to have a personal relationship with God; Jesus in prayer and speech exemplifies this referring to God as Father or “Abba.” Furthermore, even if this connection were possible and the hypothesis of a person or personality were true, for those outside it to understand the Universe scientifically humans would still seek to know the substance the cell-like fabric is created from, then what this new substance in turn is created from and so on; these factors constitute a valid reason why though a greater comprehension is possible, God in relation to the Universe, even as a human concept or reality, may always remain a mystery to human understanding, science and experience.

### **Advances in Economics and Natural Sciences; The Unexpected Future**

An Astrophysicist peering through a telescope is often wary of what he or she observes. The deepest reaches of Space may be around and within the telescope and the observer. A telescope can reveal a top view of the Universe, however, it may only provide a tiny glimpse of the greater cell-like fabric from which what is observed emerges. As we have discussed objects may gain mass by having a higher refresh rate per frame. If we use the speed of light as a measure or “clock rate scale” for this system and begin with the hypothesis that all objects are made of a substance similar to light but operating at a higher frequency or refresh rate, then we assume that objects become heavier as a result of pulsing more quickly per frame. An object that absorbs  $10 \times C^2$  frames per second may appear solid and to have a mass of 10 kilograms. If light is processed at 90GHz and a form of matter at 900GHz the fact that this matter has a pulse rate 10 times faster than the refresh rate of light may be the source of gravity allowing it to weigh 100 kilograms. To give an idea of how far behind modern transistors are in comparison to the cell-like fabric of space; Wiki (2011) “The highest clock speed microprocessor ever sold commercially to date is found inside IBM's zEnterprise 196 mainframe, introduced in July, 2010. The z196's cores run continuously at 5.2 GHz.... A single clock cycle (typically shorter than a nanosecond in modern non-embedded microprocessors) toggles between a logical zero and a logical one state.”<sup>23</sup> The

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<sup>23</sup> Wiki (2011) “Clock Rate”

earth weighs  $7.349 \times 10^{22}$  kilograms<sup>24</sup>. This figure multiplied by  $C^2$  would be the processing power required for the cell-like fabric of space to generate the earth's mass at the top view. No substance as yet known to man can process at these rates. Furthermore, a possible inference that can be made is that when processing speeds exceed 90Ghz a processor accessing the refresh rate may begin to attract mass to the information being synthesized, in other words virtual matter-information starts to become tangible; the cell-like fabric may use this same process to generate matter and mass. A virtual head of maize designed on a computer able to process matter-information such as this above 90Ghz would make information begin to become tangible and gain mass and theoretically become synthesised from virtual space into real space within the limitations of the information that constitutes its molecular design.

Einstein's Theory of Relativity is fundamentally built on the idea of motion. The Big Site of Amazing facts explains this theory stating with simplicity that "Everything from the most distant stars to the tiniest electron is always in motion, so motion or its velocity (speed), is only relative (this is where the name of the theory of relativity comes from), meaning it depends on from where the motion is viewed. This meant that measurement of size, mass, or even time could vary because it depended on the relative motion of the object being measured and the observer doing the measuring."<sup>25</sup> However, we have deduced that motion itself is an illusion since particles being fundamentally static are incapable of movement as it is understood to occur in the experiential Universe. One of the objectives of this paper was to analyze similar challenges in thought faced in the natural sciences and in economics that may hinder their capacity to evolve. The ability to control and manipulate gravity may shape the evolution of humanity dramatically, open avenues in science hitherto unexpected and sooner than anticipated. While the idea and use of a mobile phone to some people only two decades ago would have been considered ludicrous or a flight of fancy few could have foreseen the impact mobile communication would have on human culture and technology; or believed a person in a remote village would be able to pick up a device no larger than the palm and call anywhere in the world. If in future a person can dial a location on their Blackberry , iPhone or other Smartphone, select a destination and be instantly teleported anywhere on earth by British Airways for 45 pounds and 30 pence what would be the economic impact of this technology? Today a busy street may consist of people hurriedly walking up and down the sidewalk, in future this scene could be replaced by people hurriedly materializing and dematerializing onto and out of the sidewalk as they enter and leave locations they have dialed since teleporting into buildings even your own home, like smoking in closed spaces, may be frowned upon. The ability to levitate and teleport, not just people, but objects, food, hot meals, fresh produce and cargo may be technologies of the future that become part of the global transport network used by companies like FEDEX and DHL alongside planes, cars and trucks. Solar systems, Galaxies and frontiers in the Universe we consider today to far away to ever reach may be visited regularly. If it is true that physical matter consists basically of information, information and communications technology will be an area of investment with unprecedented creativity and growth potential as a part of human socio-economic existence. 2012 onward may see dramatic progress in science and humanity's knowledge and

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<sup>24</sup> Wiki (2011) "Earth"

<sup>25</sup> The Big Site of Amazing Facts (2011) "What Does Albert Einstein's Theory of Relativity Mean and How Did the Theory of Relativity Originate?"

understanding of its own existence. To cross these thresholds scientists and economists are going to have break away from ways of thinking and traditional concepts that constrain them from pushing forward the knowledge of which they are custodians.

There are many traditional approaches in economics which lead people to believe an economy is fortunate to be able to grow by 5% per annum and as long as analysis remains within these limitations unemployment, poverty and austerity measures will never cease. Some quarters of science may continue to believe the speed of light is impassable, however, frequencies may allow a hypothesis that faster than light travel is possible and therefore so too is faster than light matter, however, this must be understood outside the construct of distance (since distance=0). The tachyonic antitelephone as a logical reason why faster than light travel or communication is impossible is flawed in the sense that we have been able to deduce that changes in time in Einstein's model cannot go into the past or future but into another dimension. If Alice sends a message to Bob<sup>26</sup> using faster than light communication neither party will receive the message as a result of it being displaced to an identical location, not into time (past or future), but in another dimension in the same way a javelin thrown cannot hit a target that is no longer there. Secondly, the fact that matter has a refresh rate allows faster than light communication to be achieved before causality; in other words as long as the "speed" of communication coincides with the frequency of the refresh rate communication can take place at any velocity without creating a paradox of causality caused by faster-than-light signals. For instance if a vehicle or signal exploits the "pause" or "off" phases of the refresh rate to travel it can arrive at the same top view place and time as any person or object it is trying to reach regardless of how far apart or at what speed it travels e.g. even faster than light since during this phase top level chronological "time" is suspended for the traveling body or signal. In any case even if it took a year to get there the message would appear as though it arrived instantaneously. If a human being were delivering the message he or she though appearing to move instantaneously would be expected to be a year older, however, it may be possible that the refresh rate of the person or object delivering the message can be manipulated during delivery relative to the person or object receiving the message thus ensuring simultaneity exists for the messenger, message and its recipient, if need be, regardless of the distance between them. This would be achieved by manipulating the informational properties of top view matter, time and space. Einstein's limit is the speed of light, however, this caveat may be better described as a top view limit: *no matter how fast an object or message can travel it cannot precede or exceed the present*; consequently it cannot go back in time into a physical (a real past) or ahead into a physical or real future. If it attempted to do so two things would be proposed to occur, instead of going back in time it would find or pass through a "virtual" past or a virtual future ceteris paribus; a kind of hologramic residue or record and cross into another layer or world *behind* or in *front* of the present dimension, since as we have deduced the real past and future are used for the processing, storage and compression of matter-information. These 3 directional images, imprints or "records" would be comparable to a recording in the sense that they cannot be altered; the past will be fixed whilst projections or "records" of the possible future extrapolated from the present

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<sup>26</sup> Wikipedia (2011), "Tachyonic Antitelephone"



will to some extent be capable of changing or being edited, but only by changes within the present. Though time travel cannot be ruled out as being impossible the level of technology required to do this would not be readily available from the side view Y, but would require a stage more advanced than Y, for example Z, as Y is the side view of X, Z is the side view of Y. Furthermore, we would now be delving into an area of physics where the scale is smaller than the cell-like fabric of space; this level of technological sophistication would be outside the investigational scope of anything known to science today.

Economics and the welfare of nations are persistently determined by developments in the natural sciences. Research, development and the tremendous impact of technology on human life and culture cannot be ignored. Economics impacts the natural sciences in its ability to manage resources and create the financial environment in which the natural sciences are able to advance whilst the natural sciences through advances in technology create methods by which more can be achieved with less thus freeing up valuable resources businesses and governments can apply to improving enterprise and the socio-economic conditions people face. In this paper we have made an attempt to see linkages between theoretical physics and economics in an attempt to demonstrate the two areas face similar constraints. There are many scenarios predicted of the future that may be considered flights of fancy in both economics and the natural sciences, however, as the boundaries of discovery keep being extended what the future holds in store may even exceed mankind's greatest expectations.

## References

Beaty William (Sept 1999) "Tesla's Big Mistake?", <http://amasci.com/tesla/tmistk.html>

Big Site of Amazing Facts (2010), "What Does Albert Einstein's Theory of Relativity Mean and How Did the Theory of Relativity Originate?", <http://www.bigsiteofamazingfacts.com/what-does-albert-einsteins-theory-of-relativity-mean-and-how-did-the-theory-of-relativity-originate>

Bostrom Nick (2002 "ARE YOU LIVING IN A COMPUTER SIMULATION?" Philosophical Quarterly (2003), Vol. 53, No. 211, pp. 243-255. Department of Philosophy, Oxford University.

Chapman Jeremy "Relativity and Black Holes : The Beginning Becomes the End Becomes the Beginning : A study of cosmological birth and death"; <http://www.jeremychapman.info/cms/relativity-and-black-holes-the-beginning-becomes-the-end-becomes-the-beginning-a-study-of-cosmological-birth-and-death>

Doctor Koontz Website (2010) "Henry Moray Swedish Stones"

[http://www.doctorkoontz.com/Contact/Contact/Free\\_Energy/Moray/Swedish%20Stone/swedish\\_stones.htm](http://www.doctorkoontz.com/Contact/Contact/Free_Energy/Moray/Swedish%20Stone/swedish_stones.htm)

Einstein Albert (5th May 1920) "Ether and the Theory of Relativity", (an address delivered on May 5th, 1920, in the University of Leyden), <http://www.tu-harburg.de/rzt/rzt/it/Ether.html>

Explain that Stuff (2011) "Tranistors", <http://www.explainthatstuff.com/howtransistorswork.html>

Folger Tim (2007) "Newsflash: Time May Not Exist" (Physics & Math / Einstein)

<http://discovermagazine.com/2007/jun/in-no-time>

Modern Energy Research Library (Merlib) (2011), "Free Electricity Generated From The Radiant 'Cosmos'", <http://merlib.org/node/1588>

Nasa (2011) "Dark Energy, Dark Matter", <http://science.nasa.gov/astrophysics/focus-areas/what-is-dark-energy/>

Nasa (2011) <http://www.nasa.gov/>

Rhodes Ross (2001) "A Cybernetic Interpretation of Quantum Mechanics"

<http://www.bottomlayer.com/bottom/argument/Argument4.PDF>

Silva Robert (date) Video Frame Rate vs Screen Refresh Rate - Understanding Video Frame Rates and Screen Refresh Rates" About.com, <http://hometheater.about.com/od/televisionbasics/qt/framevsrefresh.htm>

US Energy Information Administration (EIA)(2010) "International Energy Outlook 2010:World Energy Demand and Economic Outlook", <http://www.eia.doe.gov/oiaf/ieo/world.html>

Wiki (2011) "Standard Model" [http://en.wikipedia.org/wiki/Standard\\_Model](http://en.wikipedia.org/wiki/Standard_Model)

Wiki (2011) [http://en.wikipedia.org/wiki/Clock\\_rat](http://en.wikipedia.org/wiki/Clock_rat)

Wiki (2011) <http://en.wikipedia.org/wiki/Earth>

Wikipedia (2010) "Computer" , <http://en.wikipedia.org/wiki/Computer>

Wikipedia (2010) "Gravity of Earth", [http://en.wikipedia.org/wiki/Gravity\\_of\\_Earth](http://en.wikipedia.org/wiki/Gravity_of_Earth)

Wikipedia (2010) "Radio Waves", [http://en.wikipedia.org/wiki/Radio\\_waves](http://en.wikipedia.org/wiki/Radio_waves)

Wikipedia (2010) "Receiver Radio", [http://en.wikipedia.org/wiki/Receiver\\_\(radio\)](http://en.wikipedia.org/wiki/Receiver_(radio))

Wikipedia (2010) "Resonance", <http://en.wikipedia.org/wiki/Resonance>

Wikipedia (2010) "Tuner Radio", [http://en.wikipedia.org/wiki/Tuner\\_\(radio\)](http://en.wikipedia.org/wiki/Tuner_(radio))

Wikipedia (2010) "Electromagnetic Field" [http://en.wikipedia.org/wiki/Electromagnetic\\_field](http://en.wikipedia.org/wiki/Electromagnetic_field)

Wikipedia (2010) "Mass Versus Weight", [http://en.wikipedia.org/wiki/Mass\\_versus\\_weight](http://en.wikipedia.org/wiki/Mass_versus_weight)

Wikipedia (2010), Refresh Rate [http://en.wikipedia.org/wiki/Refresh\\_rate](http://en.wikipedia.org/wiki/Refresh_rate)

Wikipedia (2011) " Electron Volt", <http://en.wikipedia.org/wiki/Electronvolt>

Wikipedia (2011) "An Exceptionally Simple Theory of Everything",  
[http://en.wikipedia.org/wiki/An\\_Exceptionally\\_Simple\\_Theory\\_of\\_Everything](http://en.wikipedia.org/wiki/An_Exceptionally_Simple_Theory_of_Everything)

Wikipedia (2011) "Crystal Oscillator", [http://en.wikipedia.org/wiki/Crystal\\_oscillator](http://en.wikipedia.org/wiki/Crystal_oscillator)

Wikipedia (2011) "Electromagnetic Radiation", [http://en.wikipedia.org/wiki/Electromagnetic\\_radiation](http://en.wikipedia.org/wiki/Electromagnetic_radiation)

Wikipedia (2011) "Electromagnetic Spectrum", [http://en.wikipedia.org/wiki/Electromagnetic\\_spectrum](http://en.wikipedia.org/wiki/Electromagnetic_spectrum)

Wikipedia (2011) "Extremely High Frequency", [http://en.wikipedia.org/wiki/Extremely\\_high\\_frequency](http://en.wikipedia.org/wiki/Extremely_high_frequency)

Wikipedia (2011) "Graviton", <http://en.wikipedia.org/wiki/Graviton>

Wikipedia (2011) "Mara", [http://en.wikipedia.org/wiki/Mara\\_\(demon\)](http://en.wikipedia.org/wiki/Mara_(demon))

Wikipedia (2011) "Philadelphia Experiment": [http://en.wikipedia.org/wiki/Philadelphia\\_Experiment](http://en.wikipedia.org/wiki/Philadelphia_Experiment)

Wikipedia (2011) "Q Factor", [http://en.wikipedia.org/wiki/Q\\_factor](http://en.wikipedia.org/wiki/Q_factor)

Wikipedia (2011) "Visible Light", [http://en.wikipedia.org/wiki/Visible\\_light](http://en.wikipedia.org/wiki/Visible_light)

Wikipedia (2011)"Atmospheric Electromagnetic Opacity",  
[http://en.wikipedia.org/wiki/File:Atmospheric\\_electromagnetic\\_opacity.svg](http://en.wikipedia.org/wiki/File:Atmospheric_electromagnetic_opacity.svg)

Wikipedia, "Tachyonic Antitelephone", [http://en.wikipedia.org/wiki/Tachyonic\\_antitelephone](http://en.wikipedia.org/wiki/Tachyonic_antitelephone)

Wikipedia, 2010, "Wave–particle duality"; [http://en.wikipedia.org/wiki/Wave–particle\\_duality](http://en.wikipedia.org/wiki/Wave–particle_duality)